CINEMATIC GAMES

The aesthetic influence of cinema on video games

by

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Declaration of Inclusion of Published Work

Material from Chapter 2 and Chapter 3 has been adapted for inclusion in a conference paper presented at the ICIDS 2013 and has been published in the proceedings with the title: 'Video Game Mise-en-scene: Remediation of Cinematic Codes in Video Games', in Hartmut Koenitz, Tonguc Ibrahim Sezen, Gabriele Ferri, Mads Haahr, Digdem Sezen, Güven Çatak*, Interactive Storytelling*
6th International Conference, ICIDS 2013, Istanbul, Turkey, November 6-9, 2013, Proceedings. This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. It has been composed by myself and has not been submitted in any previous application for any degree.

Abstract

During its first decade, Game Studies debate mainly revolved around the juxtaposition between two perspectives: the one of ludology and the one of narratology, each positing a primary quality of video games against the other. The study of the relationship between cinema and video games got somehow caught in the crossfire between these two fields. In this work, I investigate the extent to which representation in video games is connected to cinema and its representational codes. A number of authors before challenged this assumption, theorising models that only partially connect the cinematic form to video games. Such investigations have always started from the ludologically educated assumption that video games are different from cinema and, therefore, for the premises of this comparison to be considered "vitiated", only tangentially useful due to the irreconcilably different nature of the two media. The adjective "cinematic" is a concept constantly evoked in cultural discourses concerning video games. Magazines, reviewers, critics, but also designers, artists, users and commentators (even scholars) often summon the idea of cinematic games in the attempt of describing some peculiar features that share affinities with films and suggesting that video games possess the aura of the big screen. Cinematic games are born at the crossroads between interactive movies and video games, for which the cinematic expression is retained by means of audiovisual representation while keeping the action in the hands of the player. Due to the vast scale of the subject, my work focuses on relatively recent developments in game design which have yet to be fully investigated, and seeks to extend existing attempts to apply the tools of film theory to Game Studies. A secondary value of this work is an annotation on the disengagement of moving image scholars with video games, and it partly serves as an invocation for this to change.

Introduction

Playing across fields: establishing the role of cinema in Game Studies

> As audiovisual entertainment whose content is largely representational, video games have a lot more in common with film and television than merely characters and plotlines.[1]

Is there a relation between film and video games? If yes, what kind of relation is it? Can we talk about aesthetic influences between these two media and in which terms? What is film language in relation to video games and how does it affect them?

These questions seem elementary or rhetorical, but they're also crucial in order to proceed with the debate on the relationship between cinema and video games. During its first decade, Game Studies debate mainly revolved around the juxtaposition between two perspectives: the one of ludology and the one of narratology, each positing a primary quality of video games against the other. The study of the relationship between cinema and video games got somehow caught in the crossfire between these two fields. Although none of the parties involved in this diatribe recognises themselves as radicals, the fierce debate dominated the emergence of Games Studies as an independent field of research. Nonetheless, something went lost in this process. In fact, it is impossible not to notice the general

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[1] Mark J. P. Wolf, 'Inventing Space: Toward a Taxonomy of On- and Off- Screen Space in Video Games', in *Film Quarterly*, vol. 51, n. 1 (Autumn, 1997), [pp. 11–23] p. 11.

lack of interest demonstrated by scholars of other audiovisual media towards this thrilling and still growing object of research. Although it is important to recognise the need to study video games as games, paying due attention to their ludic nature in order to understand their structures and mechanisms, it is also impossible to deny the prominent role "played" by the audiovisual means of representation. While rightfully stressing the relevance of interactivity and the participant role of the player in the performance of games, it is also necessary to acknowledge the role of audiovisual codes as the interface for the player's activity. In this work, I investigate the extent to which representation in video games is connected to cinema and its representational codes. A number of authors before challenged this assumption, theorising models that only partially connect the cinematic form to video games. Such investigations have always started from the ludologically educated assumption that video games are different from cinema and, therefore, for the premises of this comparison to be considered "vitiated", only tangentially useful due to the irreconcilably different nature of the two media. The study of the influence of cinema's aesthetics on video games has consequently been fragmented in a variety of case studies that do not entirely account for the organic nature of this process.

> Video games, even at their most 'cinematic', are not a form of interactive cinema, as has sometimes been implied. Whether they might point in that direction, along with formats such as interactive movies on DVD, as one potential line of development among others, remains to be seen.[2]

Clearly, video games are not 'interactive cinema'.[3] In the expression "cinematic

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[2] Geoff King and Tanya Krzywinska, 'Introduction', in *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower Press, 2002, [pp. 1-32] p. 25.

[3] Cf. Bernard Perron and Therrien C., 'Da *Space War!* a *Gears of War*, o come l'immagine videoludica è diventata più cinematografica', in *Bianco e Nero*, v. 564 (May-August 2009), [pp.

games” –giving the name to the main title of this thesis– the previous paradigm is linguistically reversed. Here “cinematic” becomes an adjective, a variant and a function of the video game medium, acknowledging the fundamentally ludic characters of these artefacts. In spite of the implementation of expressive and formal tools developed in film language, these features shift in function and their characteristics change, developing new medium-specific traits. Nevertheless, as anticipated in 2002 by authors Geoff King and Tanya Krzywinska, works such as *Uncharted 3: Drake's Deception*[4] and *Heavy Rain*[5] prove the medium’s potential for an expressive evolution that crosses and references other artistic forms, such as film, especially in relation to their audiovisual strategies of representation. Moreover, the adjective “cinematic” is a concept constantly evoked in cultural discourses concerning video games. Magazines, reviewers, critics, but also designers, artists, users and commentators (even scholars) often summon the idea of cinematic games in the attempt of describing some peculiar features that share affinities with films and suggesting that video games possess the aura of the big screen. For example, Geoff King and Tanya Krzywinska identify an assumption within the industry for which ‘more cinematic equals “better”’, recognising that cinema has greater cultural prestige and a ‘standing higher in our dominant cultural hierarchies [...] a factor that adds to its potential appeal to the games industry.’[6]

At the same time, the word cinematic carries a stigma. “Cinematics”, for example, is a term frequently employed to refer to those non-interactive videos –otherwise called cutscenes– used to convey narrative information in games. These elements are often

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40-50], p. 40.

[4] *Uncharted 3: Drake's Deception*, Naughty Dog, USA, 2011.

[5] *Heavy Rain*, Quantic Dream, France, 2010.

[6] Geoff King and Tanya Krzywinska, op. cit., 2002, p. 6.

associated with the tradition of interactive movies in which the idea of the "cinematic" came to be opposed to the one of "interactivity":

> Games which are sometimes called "interactive movies" are made up of branching video clips or images, the branching of which is decided by a player's actions. […] Thus this sort of game (or "interactive narrative") becomes a series of long narrative sequences punctuated by moments of decision, quite the opposite of games with constant decisions and player-controlled action punctuated by noninteractive interludes.[7]

Cinematic games are born at the crossroads between interactive movies and video games, for which the cinematic expression is retained by means of audiovisual representation while keeping the action in the hands of the player. Due to the vast scale of the subject, my work focuses on relatively recent developments in game design which have yet to be fully investigated, and seeks to extend existing attempts to apply the tools of film theory to Game Studies. As noted by Will Brooker, authors such as Mark Wolf have identified potential synergies between these fields: 'Mark J.P Wolf's taxonomy of on- and off-screen space in games is based on the same implicit approach of elevating the study of gaming through a comparison with film theory and cinematic form-just as theories of authorship, borrowed from literature, dignified popular cinema in the 1950s and 60s.'[8]

Hence, a secondary value of this work is an annotation on the disengagement of moving image scholars with video games, and it partly serves as an invocation for this to change. It could be argued that, as noticed by Tom Gunning and Stephen

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[7] Mark J. P. Wolf, *The Medium of the Video Game,* University of Texas Press, 2007 [2001], p. 85.

[8] Will Brooker, 'Camera-Eye, CG-Eye: Videogames and the "Cinematic"', in *Cinema Journal* v. 48 (3), 2009, [pp. 122–128] p. 125.

Prince, this derogatory attitude can be framed within a larger disregard towards animation as a result of film theory's traditional preoccupation with indexicality and, as a consequence, as another symptom of the difficulty Film Studies has in dealing with non-photographic imageries. In this sense, the application of film theory in this work has a double use: on the one hand, it informs Game Studies and video game analysis with a number of tools developed in a discipline specialized in the critique of audiovisual forms of representation; on the other hand, it forces film theory out of its comfort zone, pushing forward some theoretical debates such as those on the index, cinematic realism, performance etc.

The world of video games is a diversified cosmos of cultural artefacts that have been labelled under the same name. In the first pages of his book on video games, James Newman addresses the problematic character of such a vast label:

> This uncertainty, as we shall see, is revealing as the argument of what constitutes 'a videogame' remains difficult to resolve. Indeed, much of what we might find interesting about videogames as an object of study is precisely their instability and mutability.[9]

Contrary to film, for which the label identifies the physical support that hosts the medium, the expression video games identifies the ludic function of the medium and only partially its representational nature. As often happens, labels struggle to reflect and, consequently adapt to, their dynamic content. Media evolve and change in a constant process of reciprocal influence, migrating to new supports, new formats, acquiring new functions in order to adapt to ever-changing ecosystems. This is the case for films: the label no longer identifies a specific physical medium, creating

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[9] James Newman, *Videogames* (second ed.), Oxon: Routledge, 2013 [2004], p. 1.

conceptual problems as a reflection of the taxonomic crisis. Nowadays most films are digitalised, encoded and decoded, zipped, uploaded and downloaded, watched on laptops, desktops, smartphones. These changes affect the reality of the medium, its ontological status but also its phenomenology. Films take new social functions, covering different times in our daily schedules (it is common to fill in the dead time spent on train commuting by watching a film on the iPad). In a similar way, nowadays the label “video game” begins to be an unfitting, that doesn’t completely give account for the variety of artefacts that it includes. In this case, the problem is immediately visible on a phenomenological level. At the dawn of Game Studies, discussion around the identity of video games as a medium focused on the contrast between its ludic and narrative function. Nevertheless, regardless of the theoretical positions, video games developed as diversified objects, capable of fulfilling a variety of needs. The ludic nature of the game is clearly undermined in its coherence by a number of different practices and functions. A large number of the video game productions are oriented to the creation of narrative universes in which the player can literally “play” the part of a character, re-enacting and sometimes rewriting the story. Some video games are becoming a liminal space for the player to experience alternative realities, to live incredible adventures, assuming new identities allowing them to escape mundane reality. Espen Aarseth’s *Genre Trouble* rightfully pointed at the necessity to establish a new field of research capable of creating the space necessary in order to consider the medium in its specificity rather that exclusively in its similarities to others.[10] Nevertheless, the evolution of the medium proved the author wrong in assuming that its phenomenological nature would be limited to its ludic element. Action adventures such as *Tomb Raider* and heavily narrative driven

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[10] Espen Aarseth, ‘Genre Trouble: Narrativism and the Art of Simulation’, in Noah Wardrip-Fruin and Pat Harrigan (ed.) *First Person - New Media as Story Performance and Game*, Cambridge, Massachusets: MIT Press, 2004. p. 47.

titles such as *Half Life* were not isolated experiments, “hybrids” that denaturalised the medium’s primary function, as claimed by the author. They were the natural evolution of the medium within a dynamic ecosystem, which is still today more diversified than ever. In this work, I consider mostly games from the 7th console generation (PlayStation 3, Xbox 360 and Nintendo Wii) analysing the developments of cinematic audiovisual codes, in order to provide an updated reflection informed by pre-existing literature on the topic.

As claimed by Mark J. P. Wolf in 2008, not only are the artistic status and the aesthetic implications of the video game still debated today but also its integration as an object of academic research is not yet complete, resembling the status of cinema during the first decades after its invention:

> It is strange to think that there was a time when people debated whether or not film was an art, but during its first two decades, when the average film was quite short and slapstick was popular, some people wondered if the medium could ever achieve more. Today there are still some who question whether video games are an art, or worth studying academically, but, like film, video games are wide ranging in their content and styles, video game designers continue to explore their artistic potential, and games are finally gaining some respect within academia.[11]

Moreover, the close relation with other forms of expression, including films, is still largely questioned, meaning that much theoretical reflection takes the form of a political debate over the influence that each discipline and theoretical approach have

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[11] Mark J. P. Wolf, *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut: Greenwood Press, 2008b, p. 21.

on this new field of study.

> […] this field is also very open to intrusions and colonisations from the already organized scholarly tribes. Resisting and beating them is the goal of our first survival game in this paper, as what these emerging studies need is independence, or at least relative independence.[12]

Nevertheless the ambivalent and hybrid nature of this medium transpires from the two variations of its name: “video game” and “videogame”.[13] While in the first case the compound noun reflects the ludic identity of this word, following the model used for the names of other kinds of games, as for example board games and card games, in the second case the word “videogame” seems to explicitly refer to the nature of this medium as a new kind of video technology, consistent with such terms as “videotape” and “videodisc”. Beside the debate over the artistic status of this medium, the parallelism between video games and other artistic forms, especially cinema, continues both from the perspective of practice and theory. The strong denial of any influence from other media and the desperate search for identity, characteristic of early film studies, can be found also in the first decade of research in Game Studies. Moreover, the apparently irreconcilable dichotomy between *spectacle* and *narrative*, discussed in film theory, is mirrored in video games through the tension between the *interactive* nature of the medium and its *narrative* aspiration frustrated in the struggle between author and player.[14] In this sense, the relationship between

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[12] Markku Eskelinen, ‘Towards Computer Game Studies’, in Noah Wardrip-Fruin and Pat Harrigan (ed.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 36-44] p. 36.

[13] Mark J. P. Wolf, op. cit., 2008b, p. 3.

[14] Quoting King and Krzywinska: ‘One of the most important points of difference between cinema and games lies in the much used […] notion of “interactivity”. If games can offer something like a cinematic experience, in some respects, this is extended […] by the most obvious distinguishing characteristic of games: the fact that the are to be 'played', engaged with in a manner that is much

cinema and video games has been central in the academic debate. ‘When Nolan Bushnell added a coin slot to the arcade game *Spacewar!* in 1971, the video game industry was born’[15], and since that moment the video game medium has established a deep relation with other forms of expression, including cinema. Video games showed at the same time a fascination and an inferiority complex, defined by some as an Hollywood-syndrome[16] or cinema-envy[17], an envy particularly towards its representational potential and its widely established influence across media.

Wolf notices that due to the limited graphic capabilities of early computers ‘video games began perhaps with the harshest restrictions encountered by any nascent visual medium’.[18] This encouraged the development of abstraction in order to ‘simplify it, reducing it to essentials and basic forms’.[19] Abstraction became functional to support players’ identification, by turning the player-character in an empty vessel for the player to project him/herself. While supporting the identification process, abstraction led as a consequence to less intuitive control of the diegetic world and complicated interaction systems, resulting in a small number of users capable of mastering the skills needed in order to achieve a significant level of proficiency. In parallel with the technological improvements and advancement in engines,[20] in graphical power and in physical simulation, the medium expanded its

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more active and formative of the resulting experience than anything usually involved in the process of film viewing'. Geoff King and Tanya Krzywinska, op. cit. 2002, p. 22.

[15] Mark J. P. Wolf, op. cit. 2008, p. 29.

[16] Cf. Thiéry Adams, ‘Introduzione alla Cinematografia Interattiva’, in Matteo Bittanti (ed.), *Intermedialità: Videogiochi, cinema, televisione, fumetti*, Milano: Unicopoli, 2008, [pp. 107–126] p. 107.

[17] Cf. Henry Jenkins, ‘Games, the New Lively Art’, referenced in Michael Nitsche, *Game Spaces: Image, Play, and Structure in 3D Game Worlds*, Cambridge, Massachusetts: MIT Press, 2008, p. 74.

[18] Mark J. P. Wolf, ‘Abstraction in the Video Game’, in ed. by Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader*, New York: Routledge, 2003, [pp. 47–65] p. 47.

[19] Mark J. P. Wolf, ‘Abstraction in the Video Game’, in *The Video Game Theory Reader*, ed. by Mark J. P. Wolf and Bernard Perron (New York: Routledge, 2003), p. 48.

[20] The word “engine” in this context identifies a technical tool of graphic calculation and

potential of representation in a direction opposite to that of abstraction. On a stylistic perspective, after having reached a sufficient level of representation, the video game increasingly relied on ‘conventions from film and television, allowing the depiction and navigation of their diegetic worlds to seem more intuitive and familiar to the player’.[21] This automatically led to a decrease in the level of abstraction to compensate for the disadvantages previously imposed, without facing a complete abandonment of it due to its advantages in facilitating player identification. According to Wolf this determined a tension between these two poles of attraction – abstraction and representation– with different results depending on the degree of influence of each aspect. This process helps to explain the determining role played by cinematic codes in the development of video game aesthetics, the former offering an already established and comprehensive system of audiovisual representation.

However, even if this relationship and reciprocal influence is nowadays more generally acknowledged, a further and updated study of the ways in which these two media influence each other on an aesthetic level is still in order. In fact, academic work has been focused mostly on debating the existence of this influence rather than its aspects. In the introduction to *The Video Game Theory Reader*,[22] Wolf and Bernard Perron describe how in the 1980s early approaches to this medium presented video games mainly as a subject for psychological studies, as exemplified in the work of Geoffrey and Elizabeth Loftus;[23] and also explored their relationship with other media, for example television, in franchise and marketing operations,

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representation developed by the software-house (or software developed) and often sold to other companies, thus used for multiple products. A graphical engine basically composed by mathematical algorithm and development tools that allow, each, to achieve different graphic performances, according to the specificity of the engine.

[21] Mark J. P. Wolf, op. cit. 2003, p. 47.

[22] Mark J. P. Wolf and Bernard Perron, ‘Introduction’, in Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader*, New York: Routledge, 2003.

[23] Cf. Geoffrey, R. Loftus and Elizabeth F. Loftus, *Mind at Play* New York: Basci Booksss, 1983.

adaptations and spin-offs, as in M. Kinder's work[24]. The novelty of the medium and the lack of any specific theoretical approach to describe, analyse and criticise this new 'textual'[25] form, led to a perception of video games as a potential expansion to existing fields of studies and disciplines. Researches conducted in media theory since the 1960s determined a certain degree of continuity in media history from both aesthetic and a technological perspectives.[26] New media assimilate elements and characteristics of previous forms through 'remediation'.[27] Referencing Bolter and Gruisin's work, authors Geoff King and Tanya Krzywinska define this process as 'a dialectical exchange between "immediacy" and "hypermediacy"', [28] where immediacy stands for the sense of presence within and transparency of the medium while the degree of hypermediacy is proportional to the user's awareness of the medium. The authors claim that, particularly in video games, the sense of immersion in the game world depends on the mediation of cinematic codes that are, to the player, a familiar means of representation and a way of making sense out of fictional spaces. According to Rob Rehak: 'the video game avatar, presented as a human player double, merges spectatorship and participation',[29] enhancing the expressive potential of this new medium and, at the same time, allowing the player to perform and, at the same time, watch his/her own performance. Video games share both content (storylines, tropes, iconography) and aesthetic elements (framing, camera

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[24] Marsha Kinder, *Playing with power in movies, television and video games: From Muppet Babies to Teenage Mutant Ninja Turtles*, Berkeley: University of California press, 1991.

[25] The use of the word 'textual' is conventional, in order to identify the ontological nature of the object of this research. The theoretical debate over the textual nature of video game is still open and represents one of the key points in the theoretical debate between ludologists and narratologists.

[26] An updated reflection adopting a similar perspective can be found in Lev Manovich, *The Language of New Media*, Cambridge, Massachusetts: MIT Press, 2001.

[27] David J. Bolter and Richard R. Gruisin, *Remediation: Understanding New Media*, Cambridge, Massachusetts: MIT Press, 1999.

[28] Geoff King and Tanya Krzywinska, op. cit. 2002, p. 4.

[29] Bob Rehak, 'Playing at Being: psychoanalysis and the avatar'', in Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader*, New York: Routledge, 2003, p. 103.

movements, editing, genres) elements with cinema and the fact that ‘video games are starting to resemble movies more than they do “real life” suggests that games, as cultural form, are produced and consumed in phenomenological accord with preexisting technologies of representation’, suggesting that ‘video games *remediate* cinema’.[30]

Nonetheless, a dedicated field of study was needed to account for the peculiarities of this emerging form. In the 1990s, the academic debate on video games developed exponentially, and scholars started to draw attention to the need for a more specific methodological approach and theoretical framework. In 1997, the publication of two works with radically different perspectives, Espen Aarseth’s *Cybertext: Perspectives on Ergodic literature* and Janet Murray’s *Hamlet on the Holodeck: the Future of Narrative in Cyberspace*, initiated a debate on video games’ textual and narrative properties. On the one hand, Murray’s analysis of video games places this medium within a neo-Aristotelian framework identifying storytelling as its main property. She proposes an interpretation of this medium as an evolution of previous textual forms. As a consequence, she develops a prescriptive set of theoretical tools, based on new dramatic structures, to be used in order to improve the already existing video game paradigm. In Murray’s model storytelling is the central focus of human activity, leading her to identify video games as means to narratively and interactively convey cultural changes occurring in the post-modern society:

> In a postmodern world, however, everyday experience has come to seem increasingly gamelike, and we are aware of the constructed nature of all our narratives (…) we can see a new kind of storytelling emerging to

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[30] Bob Rehak, op. cit. 2003, p. 104.

> match the need for expressing our life in the twenty-first century.[31]

On the other hand, Espen Aarseth's work claims a need for a radical emancipation of studies related to video games, by identifying some of the characteristics that distinguish this form of expression from all the others. In his work, he states that 'games should also be studied within existing fields and departments, such as Media Studies, Sociology and English, to name a few', but also that 'games are too important to be left to these fields'.[32] Aarseth argues for the inadequacy of narratological theory in order to study video games, emphasising the need to consider them not on the basis of similarities with other media but based on their differences and specificities. Aarseth defines video games as 'ergodic text[s]' that require a non-trivial effort in order to be traversed by the player.[33] Consequently, he questions the textual nature of video game and theorises alternative forms. By assuming that 'games are not textual, at least not primarily textual'[34], the author states playing does not require the interpretation of a fixed text but the configuration with a procedural artefact: 'in art we might configure in order to interpret, whereas in games we have to interpret in order to be able to configure, and proceed from the beginning to the winning or some other situation'.[35] Following Aarseth, Markku Eskelinen, Jasper Juul, and Gonzalo Frasca try to delineate the boundaries for a new field of research, medium specific and free from other academic interference:

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[31] Janet Murray, 'From Game-Story to Cyberdrama', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 2–11] p. 3–4.

[32] Cf. Espen Aarseth, 'Computer Game Studies, Year One', in *Game Studies* v. 1(1) (July) 2001. Retrieved from http://www.gamestudies.org/0101/editorial.html

[33] Espen Aarseth, *Cybertext: Perspectives on Ergodic literature*, Baltimore, Maryland: Johns Hopkins University Press, 1997.

[34] Espen Aarseth, op. cit, 2004, p. 47.

[35] Markku Eskelinen, 'Towards Computer Game Studies', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 36–44] p. 38.

> One side argues that computer games are media for telling stories while the opposing side claims that stories and games are different structures that are in effect doing opposite things. (…) academics from neighbouring fields, such as literature and film studies, are eagerly grasping "the chance to begin again, in a golden land of opportunity and adventure".[36]

Here Aarseth supports Eskelinen's argument on the 'gaming situation',[37] claiming the presence of an insurmountable structural difference between games and narrative forms, as the two represent opposite cultural functions. They deny the presence of storytelling in video games, arguing for the prominence of the ludic function over the narrative one. Not only does Aarseth state that video games are not primarily texts but, as a consequence, he defines them as 'not intertextual' and thus 'self-contained'.[38] He disputes the relevance of narrative elements in most games and frames video games within a tradition that precedes that of stories:

> Well, computer games are games, and games are not new, but very old, probably older than stories. It could even be argued that games are older than human culture, since even animals play games. You don't see cats or dogs tell each other stories, but they will play.[39]

Aligned with this perspective, Eskelinen argues that the conditions for a narrative situation, as identified by narratologists such as Chatman, Genette and Prince, are not replicated in video games. These conditions are twofold: a temporal sequence of events called "plot", and a narrative situation determined by the presence of a

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[36] Espen Aarseth, op. cit. 2004 [pp. 45–55], p. 45.

[37] Markku Eskelinen, 'The Gaming Situation', *Game Studies* v.1(1) (July), 2001.Retrieved from http://www.gamestudies.org/0101/eskelinen

[38] Espen Aarseth, op. cit. 2004 p. 48.

[39] Ibidem, p .46.

"narrator" and a "narratee". Eskelinen argues that not only it is not possible to identify the two actors of the communication –the narrator and the narrate– within the gaming situation, but he also states that 'in games, the dominant temporal relation is the one between user time and event time and not the narrative one between story time and discourse time'.[40] Consistently with this position, Jesper Juul theorises a model of 'game time'[41] against the classic definition provided in narrative studies, which is based on the relation between *discourse* time and *story* time[42]. Thus time is not under the control of the narrative instance, nullifying the fundamental mechanism on which narrative structures rely. Juul's model of game time, particularly the concept of 'mapping' defined as 'the relationship between play time and event time',[43] is useful in order to understand the number of possible outcomes resulting from combining in different ways the two elements of user time and event time. However, contrary to what these authors claim, this model does not deny the possibility of narration in video games. In order to completely understand the possible implications of this theory in video games it is necessary, as suggested by the same authors, to stop considering the player as a reader and start understanding him/her as an active participant in the narrative process. Shifting the theoretical framework from the one of literature and films to the one of theatre and, even more so, to those of performance and happenings, the video game user shall be considered

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[40] Markku Eskelinen, op. cit. 2004, p. 37.

[41] Based on Eskelinen theory, this model is based on the concept of 'mapping', which describes the interaction between player's activity –play time– and the events that take place in the fictional world –event time. The author describes the different relations that these elements can establish with each other, such as the one of 'coherent time' (whenever a pause in the event time –for example a loading screen– occurs, the temporal and spatial continuity between the two gaming sessions is preserved) and level time (whenever a pause in the event time occurs, a gap is created and the following session does not start where the previous one ended, leading to a sense of discontinuity). Cf. Jesper Juul, 'Introduction to Game Time', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 131–142].

[42] Seymour Chatman, *Story and Discourse*, Ithaca: Cornell University Press, 1978.

[43] Jesper Juul, op. cit. 2004, p. 134.

as an actor taking part in a performance. Within this frame, the player does not "passively"[44] interpret the text, but he/she becomes an actor that participates within the interactive text in configurative and performative practices. The link between these two media has been already acknowledged and postulated by authors such as Markku Eskelinen and Ragnhild Tronstad:

> If games are art, then what kind of art are they, and what kind of already existing and well established art forms might they resemble? The typical, usually implicit, answer includes print novels and Hollywood cinema, which are odd choices, as these styles, genres, modes, and practices require only interpretative activity from their readers, spectators and consumers. In contrast to these kinds of traditional art, various performances, installations, kinetic and robotic art, to name only few, may challenge their audiences using variable semiotic sequences.[45]

The authors' proposal is based on a parallelism between video games and performative practices.[46] This parallelism is built on the evidence of common structural elements shared both by Art Performances, Happenings and video games:

1) The absence of an audience: video games are played by the player for his/her own entertainment and do not need the presence of an audience in order to be performed.
2) The non-matrixed nature of Art Performances and Happenings is parallel to

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[44] The use of the adjective "passive" is provocative and echoes the ludologic arguments that juxtapose the interactivity of the video game medium to the passivity of fixed textual forms.

[45] Markku Eskelinen and Ragnhild Tronstad, 'Video Games and Configurative Performances', in Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader*, New York: Routledge, 2003, [pp. 195–220] p. 197.

[46] Ibidem.

the structure of video game simulations, as generators of random contents.

3) The performative and configurative nature of the medium: both media are recognised as sharing a performative nature that requires from the player/performer a non-trivial effort in order to configure the text.

According to the two authors, the first two elements in particular, the non-matrixed nature of the medium and the absence of an audience, are crucial in marking the difference with more traditional forms of theatre, which are considered to be narrative and audience-based. On the other hand, the rising phenomenon of machinima points at the increasing urge for spectator-based gaming practices, inviting consideration of the player as performer and, at the same time, spectator of his/her own performance. As a consequence, the mediation of cinematic codes and the nature of the video game as a medium based on audiovisual representation emerge as a fundamental aspect to the coexistence of performance and spectatorship. The screen device and the implementation of audiovisual cues, used to represent the performance on screen, allow the player to simultaneously participate and watch him/herself performing. This leads the player to gain pleasure both from the narration –built through the performance– and spectacle –granted by its representation.[47] According to Andrew Mactavish, the video game player experiences two different kinds of aesthetic pleasures: 'admiration', leading to a state of awe; and participation, which is instead connected to the feeling of immersion.[48] Also in this case the aesthetic pleasure is delivered through the mediation of audiovisual representation,

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[47] Geoff King, 'Die Hard/Try Harder: Narrative, Spectacle an Beyond, from Hollywood to Videogame', in Geoff King and Tanya Krzywinska (eds.), *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower Press, [pp. 50–65].

[48] Andrew Mactavish, 'Technological Pleasure: The Performance and Narrative of Technology in Half Life and other Hight-Tech Computer Games', in Geoff King and Tanya Krzywinska (eds.), *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower Press, [pp. 33–49].

working as a filter between two different practices: performance and spectatorship. This perspective solves, at least in part, the fracture individuated in the classic narrative model caused by the absence of either a narrator or a narratee. In fact, this absence is mended by positioning the player in both roles. Within this model, the player becomes an active part of the narrative process, and the influence of film language emerges as means to convey an intelligible and familiar audiovisual representation of the performance.

In 'Game Design as Narrative Architecture'[49], Henry Jenkins tries to explore these similarities to bridge the fracture between narration and video game. Firstly, the author acknowledges that 'not all video games tell stories'[50], stressing the need to avoid generalisation and to consider video games as a diversified universe of artefacts. Here, consistently with the arguments of Aarseeth and Eskelinen, stories and games are framed as 'functions', thus considered as 'medium-independent', freeing the debate from extremist positions of medium-specificity and allowing for a more nuanced definition.[51] Murray has presented a similar argument, suggesting that '[...] there is no reason to limit the resulting form to the dichotomies between story and game, which are more rigidly established in legacy media. We can think instead of matters of degree'.[52] Moreover, Jenkins states that 'games can never be reduced to the experience of a story', supporting the fact that they are partially narrative, but also recognising how this function is structured in different and medium-specific ways. In fact, Jenkins focuses on the concepts of spatiality and environmental design.

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[49] Henry Jenkins, 'Game Design as Narrative Architecture', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 118-130].

[50] Ibidem.

[51] Espen Aarseth, op. cit., 2004, p. 50.

[52] Janet Murray, op. cit. 2004, p. 9.

The author frames space at the centre of his model, considering it as the primary source of narration in video games. The game design activity is then described as a hybrid one, between the authorial creation of a text and the architectural work of shaping spaces. For this reason 'game consoles should be regarded as machines for generating compelling spaces'[53]. Not only do spaces contain narrative but they also generate it. According to Jenkins narration in video game develops through 'transmedia storytelling' and 'environmental storytelling'.[54]

With regards to transmedia storytelling Jenkins claims that narrative in new media 'depends less on each individual work being self-sufficient than on each work contributing to a larger narrative economy'[55], basically challenging the 'self-contained'[56] definition provided by Aarseth. Transmedia storytelling and the intertexual characteristics of video games define a theoretical framework for phenomena such as the spreading of serialisation, spin-offs and adaptations that characterise a huge part of the video game market. This process is reciprocal and takes place across multiple media, especially through video games, cinema and television. Titles such as *The Godfather II*,[57] *Terminator Salvation*,[58] *The Thing*, *Harry Potter*[59] and *The Lords of the Rings: War in the North*[60], all became part of transmedia worlds. The percentage of video game products based on film adaptations exponentially increased over the past ten years proving the strength of this process and its importance in the industry.[61] Film-to-video game adaptations perfectly fit into

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[53] Henry Jenkins, op. cit., 2004, p. 122.

[54] Ibidem, p. 123.

[55] Ibidem, p. 124.

[56] Espen Aarseth, op. cit., 2004, p. 48.

[57] *The Godfather II*, EA Redwoodshores, 2009, USA.

[58] *Terminator Salvation*, GRIN, Equality Games, 2009, USA.

[59] *Harry Potter and the Deathly Hollows Part I*, EA Bright Light, 2010, USA.

[60] *The Lord of the Rings: War in the North*, Snowblind Studios, 2011, USA.

[61] Alexis Blanchet, 'Cinema e videogiochi, le leggi dell'adattamento', in Matteo Bittanti (ed.),

1960s New Hollywood industrial logics based on genres, serialisation and multimedia productions.[62] This phenomenon is not limited to the simple migration of the same text to another medium. Not only does the text often radically change, but it also undergoes a process of expansion, depending on the characteristics of the medium, opening the narration to the intervention of the player.[63] Environmental storytelling is based on the use of 'evocative spaces'.[64] Here, narration is 'embedded' and can be triggered by the user. The second model analysed by Jenkins is that of emergent narratives, based on 'not prestructured or preprogrammed'[65] events, but instead resulting from the interaction of the player with a set of objects and functions contained in the video game.

The concepts of embedded and emergent narratives together lead Jenkins, as Eskelinen before, to establish a parallelism with performing arts such as the Italian 18th century *Commedia dell'Arte*. In this theatrical form a number of masks (*maschere*), defined by general characteristics based on traits, behaviours and generic roles, were assigned a set of possible actions (*lazzi*). The narration resulted from the extemporaneous combination of masks and actions, improvised by the actors on the stage. This structure recalls the one of video games, in which the simulation, grounded on a set of characters matched with a roster of possible actions, generates a series of non-scripted events. This theory supplies an example of how alternative narrative models may be accepted as compatible with video games, but also a paradigm to understand certain functions of cinematic games depending on the staged or procedural model of the simulation. Following Jenkins's work, Michael

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Schermi Interattivi: il cinema nei videogiochi, Roma: Meltemi, 2008, [pp. 33–50], p. 44.

[62] Ibidem, p. 41.

[63] Ibidem, p. 43.

[64] Henry Jenkins, op. cit., 2004, p. 123.

[65] Ibidem, p. 128.

Nitsche's *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds*,[66] provides a compelling account of the variety of approaches that characterised game studies during the last two decades:

> Interactive Media and their most prominent and most diverse representatives, video games, have unsettled traditional media theory. (…) It is incomprehensible that any single theory could do justice to a form as rich and vivid as video games. The variety of these games calls for a diversity of analytical approach.

The author's argument is built around the idea of space as the central dimension to 3D video games. He provides a model of game analysis structured around five typologies of spaces: 'rule-based', 'mediated', 'fictional', 'play' and 'social'. The 'rule-based' level is identified as the space of the code, the language of the machine to which the player has no access. This first instance highlights the idea of spaces as both physical and non-physical realities. Thus space becomes a tool adopted to address objects on a drastically different ontological level. The second one, called 'mediated space', takes place on the screen and mediates the information between the machine and the player through representation; this level of investigation is the most relevant to the debate around film form and its influence on the audiovisual codes of video games, as presented in this work. The 'fictional space' is placed outside the game framework, taking place in the mind of the player, while the 'player space' defines the physical reality of the player and the machine hardware. The last layer, the 'social space' is optional (not always present), and depicts a multiuser situation with other players involved in the game.

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[66] Michael Nitsche, *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds*, Cambridge, Massachusetts: MIT Press, 2008.

Nitsche develops a parallel between video games and buildings. In this perspective, video games are spaces that structure the player's experience through exploration, allowing them to freely play with the contents of the game. Therefore, game design is said to be closer to architecture than to any other creative activities, and space is the core element of creation and fruition. Narration, presentation, gameplay, interaction all depend on and come from structuring space. Nitsche limits the object of his investigation to: 'games available on consumer hardware' and 'games provided with navigable 3D environment'.[67] These constraints facilitate Nitsche's interpretation of games as architectures, stressing the relevance of three-dimensional spaces and the techniques used to allow the player to inhabit them. He then identifies three main sections suggested as basic macro-layers of game analysis: 'Structure', 'Presentation' and 'Functionality'.[68] The first section, on structure, underlines the role of interaction and narration in video game structure and their relation in the process of signification. Quoting Crowford and Aarseth, Nitsche defines interaction as a cyclic conversation between a textual machine and a player communicating through an interface.[69] Narration instead is defined as 'a way for the player to make sense of the in-game situation'. Supporting Mallon and Webb's definition of narrative as a 'form of comprehension that can be triggered and affected by the game world'[70] Nitsche shifts the focus of the narrative process from the author to the player. He frames the narrative process in the 'fictional' space, the one of the player's mind. As a consequence, game designers are compared to architects, who create a spatial experience structured through 'evocative narrative elements' defined as

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[67] Ibidem, p. 5.

[68] The last section on 'functionality' is not relevant to this work as it focuses on the similarities between architectures and games.

[69] Ibidem, p. 31.

[70] Ibidem, p. 42.

'encounters or situations' and again 'suggestive markings […] aimed to trigger reactions in the players in order to help them to create their own interpretation'.[71] On the one hand, the concept of evocative narrative elements proves to be a useful theoretical tool in order to mediate between authorship and the interactive access that has to be guaranteed to the player. On the other hand, Nitsche's arguments on the structure of narration are not completely clear and they seem to point, once again, at a self-contained model, where only the narration occurring during gameplay is accounted for. The author explains the shift in terms of narrative focus from authorship to interaction by rethinking the two core elements of narrative structure: 'fabula' and 'sjuzet'.[72] He criticises the interpretation of these two terms as story and plot, identifying sjuzet not as the order and manner in which the events are presented but as their presentation. In addition, he translates the term fabula as "plot", placing it outside the text framework, in the 'fictional' space of the player's mind: 'plot is neither the factual order of the events nor their presentation, but the order and connections between events as understood by the reader'[73] and 'Any development of the *fabula* is positioned within the responsibility of the user's interaction'[74], concluding that 'fabula and sjuzet are tied together on the level of interaction and immediate audiovisual presentation'[75]. There is no presentation (sjuzet) without event flow (fabula*)* and there is no event flow without user interaction and again interaction is dependent on representation in order to give access to the player (mediated space). Nitsche creates a circle in which all the elements of narration are sustained by user's interaction, putting the player in charge for most of the creative process. Although evocative narrative elements play an important role in creating

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[71] Ibidem, p. 44.
[72] Ibidem, pp. 47-51.
[73] Ibidem, p. 50.
[74] Ibidem, p. 49.
[75] Ibidem, p. 49.

narrative events or providing narrative opportunities, I would argue that Nitsche's model underestimates the role played by intertextuality, transmediality and narrative instances in games. In fact, nowadays video games feature such a complex level of storytelling, through extensive and highly professional screenwriting, with considerable pieces of text presented in long cinematic sequences (*Metal Gear Solid 4: Guns of the Patriots*,[76] *Uncharted: Drake's Fortune*,[77] *Mass Effect*[78]) to the point that the presence of strong authorial voice is hardly debatable. As a consequence it does not seem appropriate to invest the users with all the "responsibility" for the narrative development, but rather to consider them as performers. The same approach is used in order to describe the 'acts of a character, defined from the point of view of its significance in the unfolding intrigue of the story' as theorised by Propp.[79] Again Nitsche leaves to the player the role of activating these functions. In video games, these are interestingly translated as sets of actions available for the user to interact with the player-character and with the virtual world. Nevertheless, it appears that the definition of Proppian function, which originally stands for the role of a character participating in narrative development through its actions, has been minimised. Nitsche defines functions in video games as a set of '"meaningful choices" or "activities" that are available in the fictional world'.[80] This model does not acknowledge the narrative role played by other elements such as NPCs (Non-Playing Characters) and events, which affect the narration beyond the player's control. Moreover, in order to provide an interaction-based account of narration, Nitsche exemplifies these "meaningful choices" as the set of moves available to the player in

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[76] *Metal Gear Solid 4: Guns of the Patriots*, Konami, 2008, Japan.

[77] *Uncharted: Drake's Fortune*, Naughty Dog, 2007, USA.

[78] *Mass Effect*, Bioware, 2007, USA.

[79] Vladimir Propp, *Morphology of the Folktale*, Austin, TX, and London: University of Texas Press, 1968, quoted in Michael Nitsche, op. cit., 2008, p. 52.

[80] Michael Nitsche, op. cit., p. 53.

order to control the character of Lara Croft in *Tomb Raider*[81]. These activities may be the basic interaction given to the player in the game world but do not represent the only tool used to develop narration in it. For example, cut scenes must be considered part of the gameplay and narrative process as they further develop the character/avatar role in the story as well as giving rhythm to the gameplay flow.[82] In the second section, Nitsche describes the presentation level a space generator device, once again supporting the theory of *space* as the core element in video game design and practice. The presentation, which is the heart of the *mediated* space in Nitsche's model, works as a filter between the *rule-based* space and the *fictional* one. As for many other new media the presentation is conveyed to the player through audiovisual cues that are based, as in cinema, on 'moving images'.[83] The use of cinematic language is a way to organise moving images and make them readable to the user, already familiar with cinema codes. If *space* is at the core of this process and the audiovisual language is the means used in order to present it, the cinematic techniques and cinema language become a space generator device used to allow the player to explore the virtual environment. Nitsche does not give account for the dimension of time in the framing process, placing the virtual camera activity in an on-going and real-time dimension read as a continuous present. Even assuming that this model could work for the majority of commercial titles on the market, this also represents a theoretical limitation for the analysis of already existing experimental works and possible future innovations in video game language. As Nitsche points out, the lack of variety of cinematic tools used by video game designers not only depends on technical hardware limitations but also on users' rate of literacy

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[81] *Tomb Raider*, Core Design, 1996, UK.

[82] Rune Klevjer, 'Per una difesa delle cut scenes', in Matteo Bittanti (ed.) *Schermi Interattivi: il cinema nei videogiochi*, Roma: Meltemi, 2008, [pp. 51-68].

[83] Michael Nitsche, op. cit., 2008, p. 69.

concerning this partially new language. It took years for the majority of players to master the use of free cameras in 3D spaces, causing the failure of many innovative titles in the history of this market, as for example *Red Baron*.[84]

For a long time, the competition for ascendancy between the paradigms of ludology and narratology focused the debate on the status of the discipline and its relations with adjacent fields, only marginally investing resources in the analysis of the interplay between video games and other media. This debate faded eventually into a paradox, leading some authors to even question its existence.[85] During the last ten years a new generation of video game studies surpassed this dichotomy. Authors such as Wolf, Geoff King and Tanya Krzywinska, and more recently Nitsche and Alexander Galloway[86] explored in different ways the aesthetic similarities and influences between video game and cinema. Drawing from these authors, my research aims to retrace the influence of cinematic codes in video games and, in doing so, to develop analytical tools for the analysis of video game aesthetics. Starting with Bolter and Grusin's speculations on remediation between cinema and videogames,[87] it is clear by now that video games are not "interactive cinema" but they nonetheless acquire cinematic traits in developing their medium-specificity. In spite of the volume of critical literature produced on this topic, I argue that film theory still has much to offer to the analysis of the video game medium for two reasons. Firstly, the resistance generated by the narratologists vs ludologysts debate combined with the scepticism of film scholars towards the representational and

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[84] *Red Baron* Dynamics, 1990, USA.

[85] Cf. Gonzalo Frasca, 'Ludologists love stories, too: notes from a debate that never took place', in *Level Up* Conference Proceedings, 2003b. Retrieved from: http://www.digåra.org/wp-content/uploads/digital-library/05163.01125.pdf

[86] Alexander Galloway, *Gaming, Essays on Algorithmic Culture*, University of Minnesota Press, 2006.

[87] Jay Bolter and Richard Grusin, op. cit., 1999.

artistic capabilities of the new medium, has led to a partial disengagement of Film Studies from practising aesthetic and textual analysis on video games. Secondly, while endorsing the notion of 'graphical regimes'[88] against the technological determinism that is often manifest in the discourses on video game aesthetics, the technological evolution over the past ten years has been so dramatic as to demand new kinds of formalist research on the audiovisual strategies adopted by contemporary titles. In fact, the development of new graphical and physics engines and the increased level of literacy of video game players allow today the implementation of more sophisticated audiovisual codes in video games. Although these elements may not always innovate at the level of gameplay dynamics, they expand and amplify the emotional impact of the game on the player, encouraging the expressive evolution of the medium. Nevertheless, it is often the case that décor and functionality collide, and the close analysis of some of these titles points at the need for a more nuanced understanding of video game aesthetics.

Regardless of the theoretical debates, narration in video games has been expanding and developing in a variety of different ways over the past decade, deploying cinematic codes in order to convey characters, worlds and events to the player. Best selling franchises such as *Tomb Raider*, *Resident Evil*, *Call of Duty*, *Uncharted*, *Fable*, *Mass Effect*, and *Assassin's Creed*, heavily rely on their storylines in order to motivate the player to proceed in the game, but they also integrate some of the gameplay dynamics within their narrations. If the survival quality of *Resident Evil* is motivated by its story, which puts the characters in constant danger and threat, the

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[88] Dominic Arsenault and Pierre-Marc Côté, 'Reverse-engineering graphical innovation', in *G.A.M.E., Games as Art, Media and Entertainment*, v. 2 (1), 2013. Retrieved from: http://www.gamejournal.it/reverse-engineering-graphical-innovation-an-introduction-to-graphical-regimes/#.UhYm52R5xi4

skilful protagonists of *Assasin's Creed* impose their stealth style on the gameplay, reflecting the secretive character of their missions. Within this scenario, the role of cinema is not only fundamental at the level of narrative content, but most importantly on a formal level through the codification of established aesthetic features that are adopted across different media, including video games. It is, in fact, the mediation of audiovisual cinematic codes that allows the merging of performance and spectatorship, solving the dichotomy between games and stories. Hence, the debate between ludological and narratological perspectives, partially based on the irreducible distance between the figure of the player and that of the spectator, is eventually solved through the mediation of cinematic audiovisual language. Moreover, not only do we need to study the 'extent to which such games also diverge from film, sometimes radically, in a manner important to our understanding of how games function distinctively as games', but this process may be fruitful for Film Studies, investigating 'the extent to which the examination of games in the light of cinema might also encourage us to question some of the ways we understood cinema itself'.[89]

This project investigates the aesthetic influence of cinema on video games, especially in relation to the codes of representation, their languages and what we could call, in Christian Metz's words, their 'matter of expression'.[90] It is necessary, due to the extremely layered nature of both these media, to explore their relationship with an interdisciplinary approach. Not only is this determined and required by the differences occurring between the two on an ontological (the different specificity of the physical objects, their different technological platforms, supports, functions and

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[89] Geoff King and Tanya Krzywinska, op. cit. 2002, p. 1.
[90] Robert Stam, Robert Burgoyne and Sandy Flitterman-Lewis, *New vocabularies in film semiotics: structuralism, post-structuralism, and beyond*, London: Routledge, 1992, p. 37.

structures) and phenomenological level (their contexts, practices of production, distribution and reception, their use), but also because of the variety of theoretical approaches and fields of studies involved in the academic debate on this subject. As previously discussed, the debate on the relevance of a video game research that takes into account elements, methodologies and tools of analysis from other fields of the human sciences, such as Film Studies, has been largely criticised. From the claimed absence of a structural and constitutive narrative function of the medium in favour of a more ludic one, to their structural differences in terms of technology and devices involved, and again the different practices that characterise them from a user perspective; all these debates involve a large variety of themes and approaches in order to either dismiss or support the presence of a reciprocal process of influence between the two. This work focuses on a synchronic perspective in order to address this subject, making the object of investigation alive and mutable. The elements at the centre of this investigation are not the history or the evolution of this influence – although I will occasionally refer to older games in order to provide necessary context to understand some contemporary evolutions– but instead it wants to investigate the "state of the art" of cinematic codes in video games. Therefore, the case studies and examples presented in this work all generally belong to the "seventh console generation" (Nintendo Wii, Xbox 360 and PlayStation 3). Within this time-frame critics, users and the industry approximately identify the years between 2005 up till 2014[91], during which the "later console generation"[92] set the standards

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[91] This research project was conducted between March 2011 and March 2015. During this time, the industry changed in many senses. Among other factors: the advent of digital content distribution in 2010; the rise of the profitable mobile gaming sector; the launch of new portable consoles. These are all elements that affect the dynamics of the video game scenario, also on a formal and aesthetic level due to the growing importance of the compatibility between the different devices in order to justify the investments in products that become more expensive by the day. At the moment it seems likely that the new console generation turnover can be dated to 2014. Nevertheless, the launch of the WiiU (launched on the market in December 2012) anticipates that date, in accordance with Nintendo's policy of market colonisation by anticipation. Nevertheless, this

(technologically but also expressively) not only for the console gaming market but, generally, also for the PC platforms due to the high costs of contemporary productions and the necessity to maximise their distribution over all the platforms available. At the same time, the film industry and video game industry seem to encourage this reciprocal influence by investing in productions involving intermedial elements either on a formal or content level proving the existence of a strong link also in production.[93]

Once again, this work focuses specifically on the formal aspect of the aesthetic influence from cinema to video games. This aesthetic influence is postulated in the form of cinematic audiovisual codes, also more loosely referred to as film language. The relevance of film language in relation across analogic and digital cinematic product is clearly stated by David Norman Rodowick in his reflections on the virtual life of films: 'Thus, the quality of being cinematic, or even of defining, if we still dare, cinematographic specificity, rests on the analysis and definition of a code or

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product shows the signs of this manoeuvre by combining innovative control devices –the Wii was the first console to introduce a motion control device for the mainstream market– with relatively underpowered technical components (processor, RAM, hard-disk). By doing so the company achieves two different goals: to be able to anticipate the other companies in the console-race by utilising hardware that is already present in the market; be able to sell the product at a competitive price due to the affordable hardware specifications. In doing so, the console that generally reaches the market one year before its competitors, relies on the adaptations of existing titles, converting software coming from other platforms, and expands its platform of users establishing the product before the other companies, gaining an advantage that can endure for years (only recently, after five years, almost at the end of the life cycle of these console generation, did Microsoft and Sony manage to match Nintendo in terms of sold console units.

[92] Mark J. P. Wolf, op. cit., 2008, p. 169.

[93] Considering traditional cinema distribution, the number of video game-to-film adaptations vary every year on a non-regular basis. Within the trend that has emerged over the past few years, some of these productions have been released directly to domestic distribution formats such as DVD and online downloads, probably individuating a better target audience for these products outside the classic circuit of distribution. For example, *Tekken: Blood Vengeance* (Yoichi Mori, 2011) has been released only for the retail market, while *Resident Evil: Degeneration* (Makoto Kamiya, 2008) had a very limited theatrical screening on October 17, only to be immediately distributed on retail formats on December 24. For further information cf.: http://www.boxofficemojo.com/genres/chart/?id=videogameadaptation.htm and http://en.wikipedia.org/wiki/List_of_films_based_on_video_games

codes immanent to the set of all films.'[94] In order to explore the possible implications of an aesthetic influence between these two media it is necessary to provide a definition of cinematic codes. In one of his most famous writings titled 'The Cinematographic Principle and the Ideogram', Sergei Eisenstein anticipated academic debate over the phenomenology of film language, providing an insightful reflection on the nature of this expressive form. Eisenstein built a parallelism between the idiomatic Japanese writing system and film language in order to illustrate the role of editing in cinema. Supporting the primary importance of editing in the filmic creative process, he used Japanese ideographic writing in order to explain his theory of cinedialectic or 'intellectual cinema', claiming that 'From separate hieroglyphs has been fused - the ideogram. By the combination of two "depictables" is achieved the representation of something that is graphically undepictable', continuing 'It is exactly what we do in cinema, combining shots that are *depictive*, single in meaning, neutral in content – into *intellectual* contexts and series'[95]. The question on the possibility of defining audiovisual codes[96] as a language has been at the centre of debates in Film Studies from the 1960s to the 1980s.[97] Decades after Eisenstein's claim that 'language is much closer to film than painting is',[98] film audiovisual codes have been recognised to be fundamentally different from natural languages due to their characteristic traits. The non-arbitrary and non-verbal nature of the signs comprising this codes led to a distinction between

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[94] David Norman Rodowick, *The Virtual Life of Film* (Cambridge, Massachusetts: Harvard University Press, 2007) p. 19.

[95] Sergei Eisenstein, 'The Cinematographic Principle and the Ideogram', in Jay Leyda (ed.), *Film Form – essays in film theory*, London: Dobson Books, 1963, p. 28.

[96] The definition of 'code' refers directly to the communication model developed by Jakobson in 1960, in which a clear distinction is made between the 'message' (or the content) and its 'code' (the form).

[97] Cf. Burgoyne, R., Flitterman,-Lewis, S., Stam, R., *New vocabularies in film semiotics: structuralism, post-structuralism, and beyond* (London: Routledge).

[98] Sergei Eisenstein, 'A Dialectic Approach to Film Form', in Jay Leyda (ed.), *Film Form – essays in film theory*, London: Dobson Books, 1963b, p. 60.

‘langue’ (language system) and ‘langage’ (language) leading Christian Metz to include film code in the latter.[99] Metz in fact argues that the relation between signifier and signified in film language is not arbitrary as in natural languages, but mostly based on a more direct relation between what represents and what is represented. The langue is mostly based on the symbolic, abstract and arbitrary nature of the sign while the langage, especially film and audiovisual language, are based on the iconic nature of the signs that compose their codes. According to Metz, there are three main meanings in which the word ‘language’ is used: a system in which the formal structure is similar to the one of a natural language; everything that conveys meaning for/to human beings; ‘any unity defined in terms of its “matter of expression”’.[100] With regards to cinema the word “language” is used in its latter meaning, as a coherent form of expression defined by its unity. More recently, media theorist Lev Manovich defined film language and audiovisual language as ‘the emergent conventions, recurrent design patterns, and key forms (of film)’.[101] Consistently with this perspective, this research explores these elements in the light of a semiotic assumption, accepting the phenomenology of film language, defined as a set of formal elements and set of elements invested with specific functions and meaning, such as mise-en-scene, framing, lighting, composition, camera movements, editing, and all the apparatus of representational tools, codified in film theory through a structured association between these elements and their aesthetic and expressive functions.[102] Drawing again from Manovich:

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[99] Christian Metz, *Film Language*, Chicago: University of Chicago Press, 1974.

[100] Robert Stam, Robert Burgoyne and Sandy Flitterman-Lewis, op. cit., 1992, p. 37.

[101] Lev Manovich, op. cit., 2001, p. 12.

[102] Another important premise is due with regards to the use of the phrase ‘film language’. Though it is common, also among academic discourses, to use interchangeably the phrases 'film language' and 'cinema language', it seems necessary to limit this possibility to the one of 'film language' in order to univocally address the general set of tools and rules underlying the audiovisual production of film works. In fact, while the use of the word 'film' specifically addresses a textual typology, other than a medium, based on a set of defined rules, the word 'cinema', instead, is more generally

> In a computer age, cinema, along with other established cultural forms, indeed becomes precisely a code. It is now used to communicate all types of data and experience, and its language is encoded in the interfaces and defaults of software programs and in the hardware itself. Yet, while new media strengthens existing cultural forms and languages, including the language of cinema, it simultaneously opens them up for redefinition.[103]

Cinema became a code also through the influence of other media, (video games among them) that borrowed some codes of representation establishing a two-way relationship with films and their 'matter of expression'. Reflecting the nature of this research, informed with Games Studies theory but grounded in the application of Film Studies to video games, this work is organised in two sections:

- Section 1 (chapters 1 to 4), covers the profilmic level of the cinematic image, focusing on the staging techniques that, at the cinema, occur before the mediation of the camera: creation of a virtual stage characterised by a sense of liveness on which the player can perform as well as watch his/her own performance; the development of a cinematic spatiality in video games understood through the concepts of scripted and procedural staging that recreate cinematic situations while allowing the interaction of the player; the development of expressive uses of lighting and colour, bringing décor beyond the role of embellishment and making it functional to the meaningful connotations of the contents that are functionally reflected in the gameplay; the presence of player-characters that live beyond the shadows of empty

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associated with a distribution device and technological platforms used in order to provide and get access to these set texts.

[103] Lev Manovich, op. cit., 2001, p. 333.

avatars.

- Section 2 (chapters 5 to 7) investigates the influence of cinematic means through the lens of the camera, in what is generally identified as the filmic level of the image involving aspects such as: the role of the camera and its definition in the digital and virtual environment; the ontological differences between the cinematic and videoludic images; the concept of realism and cinematic realism in the simulation of the photographic image; the sense of temporality as expressed in cinema and video games, creating a feeling of constant presentness and providing the illusion of the passage of time; the fragmentation of cinematic editing as opposed to the continuous and never-ending recording of video game montage.

Overall, the thesis itemises a collection of traits that partially define cinematic games, providing some tools for their analysis and understanding particularly in regards to the audiovisual codes of representation. This investigation takes mostly an aesthetic and theoretical approach aimed to develop a number of analytical tools that will hopefully allow a better understanding of the audiovisual language of video games and its ties to the cinema. Nevertheless, as previously happened for the studies of cinema, it is of extreme importance to take into account how surrounding user-generated discourses have shaped terminological practice. It is in fact impossible not to acknowledge the important role played by the users' community and by the specialised press in developing a taxonomy for some of these elements that has profoundly influenced the production process. A striking example of this process can certainly be found in the development of a system of genres. This distinction initially operated by the users and the critics –possibly under the influence of similar and more widely spread media such as the one of cinema– has affected the production of video games. In fact, the creation of specific categories and labels in which games have been appointed not only may have limited the investments of the production company in favour of one genre or the other, but it has also affected the production of new titles by forcing the designer to adopt specific structures and patterns according to the genre of destination. In this sense, the classification and theorisation of video game productions had not only a descriptive role, but also –involuntarily– a prescriptive one, on the basis of the reception of the users and, consequently, according to the expectations of the industry. For this reason, a genre such as the adventure game, which has known great popularity during the 1980s and the beginning of the 1990s, has now almost completely disappeared. Hence, I often appeal to press materials, reviews, articles and users' videos in order to describe the reception of some of these elements and, at the same time, to inform the theoretical discussion and the tools of analysis here developed.

Finally I want to acknowledge the limits and constraints that are always present in any research (generated by the necessity to establish boundaries to the osmotic process of investigation) and that take on even more specific and relevant forms in relation to the video game medium. Particularly idiosyncratic to this field are the economic and time limits imposed on the research. Video game research is expensive, both in terms of time and money. Video games are often long texts that can take up to hundred of hours for a single run through. Moreover, their prices create another considerable restraint on the research, as the researcher is forced to filter his/her choices through the means of the press and the users' discourses, which becomes problematic as the materials are partially digested by the provider of the information, both in their selection and critique. It is often the case that the research will focus on titles that received the attention of the gamers' communities and of the press, which may lead the reader to question the independence of the research methodology and overall of the system that produces it. Given the low levels of funding provided for research –especially at doctoral level– in humanities, the research has to cope not only with the objective limitations of time in operating the selection of games to be played, but also with contingent elements such as the financial aspect, that is made particularly problematic by the costs of these goods. Video games have always been an expensive form of entertainment, but the exploitation of gamification as a cultural process and the monetisation of time –phenomena such as pay-per-play and pay-per-win, but also the increasing emergence of DLCs and serialisation– affect the structure of the research. These issues pose fundamental questions to researchers in this field, accumulating issues that are internal to the object of study. Issues of conservation, availability, restoration and accessibility with relation to video games become fundamental to guarantee even the basic possibility of research in the field. The techno-determinist trajectory of the industry that pushes these cultural artefacts also on the basis of their technological novelty is fundamental in understanding the importance of developing methodologies that account for the material nature and constraints of the medium. Issues of philology are intrinsically present in the study of such mutable texts relying on even more mutable platforms. Leaving alone the variety of official remastered editions that exploit the product on different platforms, and the variability of the audiovisual quality of the texts according to the power of the machines (especially on PC platforms, that traditionally provide the players with a variety of settings capable of dramatically changing the audiovisual experience of the game), the world of video games is naturally bound to the cultures of “cheating” and “modding”, but also to “user-generated contents” that constantly reshape and reconfigure the text in a perennial negotiation between the author and the users, almost metonymically expanding the idea of “interaction” as basic characteristic of this medium. Moreover, it is fundamental to this project to recognise the importance of the materially and historically specific nature of the aesthetic reflection. Video games are affected by constant technological improvements, which are then used in marketing campaigns and in advertisement. For this reason, the individuation of a time frame is necessary to grant the relevance of these observations to specific objects. Also, the materiality of the medium and of its apparatus plays a fundamental role in shaping its aesthetic development. Not only are cinematic aesthetics relevant to video games due to their common nature as audiovisual media, but also for their material lineage as moving images displayed on screens. It is not by chance that the cinematic character of video games grew stronger not only due to graphic processing development, but most importantly due to the addition of the television as main platform to its imagery. For the same reason, the arguments reported in this work are intended to be neither prescriptive nor predictive. As much as the materiality of the interfaces used in video games (game pads, TV screens) and the second-phase of video game literacy are important to the definition of a cinematic aesthetics, the availability of new technologies (virtual reality) and the commercialisation of new devices associated to them (Oculus Rift, Project Morpheus, Google Glass) will affect the aesthetic paradigms of video games and, eventually, will change the medium itself.

Section 1 -

The Stage, the Screen, the Holodeck: mise-en-scene in video games

Introduction

This section discusses the relation between cinema and video games at the first level of the audiovisual articulation, the profilmic dimension. Here I take into consideration the organisation of the frame, generally addressed as mise–en–scene, and composed by multiple sub-layers: staging, lighting and acting[104]. This organisational model is, of course an abstraction, one of the many ways to organise the filmic and profilmic stratification for analytical purposes. In fact, as proved by the reflections in the following chapters, it is not always easy to clearly isolate these elements as they often inform each other in a complex and organic textual process.

A preliminary overview of the discourses around the mise-en-scene and the staging techniques –the two terms are often used interchangeably– points to the importance of the relationship between theatre and cinema. This topic involves issues of status, refashioning, inspiration and, possibly, remediation between these two media, establishing an interesting precedent to the intermedial relationship between cinema and video games. Such was the contested nature of the interplay between theatre and cinema that it has led some scholars to argue for an inclusive definition of mise-en–scene, not limited to the profilmic layer –the one of staging, acting and lighting– but also encompassing the elements of framing and composition, in order to provide a

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[104] David Bordwell and Kirsten Thompson, *Film Art: an introduction*, New York: McGrew-Hill, 2004, p.49.

medium specific characterisation to this concept.[105] In light of this debate, it seems appropriate to enclose an analysis of the staging techniques that at times also takes into consideration the framing process, which will nonetheless be further explored in the next section dedicated to the filmic dimension. In fact, a more flexible analysis permits a better examination of the interaction across the layered cinematic codes, providing a better understanding also of its relationship with the video game medium. The main focus for this section is the investigation of mise-en-scene in video games, primarily through means of comparison with film theory. Is the idea of mise-en-scene applicable or even useful to video game analysis? Is there a relationship between mise-en-scene in video games and cinema? If such a relation exists, how can we describe and define the concept of mise-en-scene in relation to its medium specificity? How can the analytical tools developed for cinema contribute to a better understanding of video gameaesthetics?

This investigation aims primarily to develop a number of analytical tools to understand the first level of audiovisual articulation in the video game medium, and secondly to individuate formal and aesthetic elements, instances and patterns of film language that have been remediated in video games. As a consequence, it highlights not only the changes undertaken by the formal elements in the passage from one medium to the other, but also how their functions shifted according to the specificity of the medium. For example, whereas framing in film is intended to guide the spectator's look through each sequence, scene and shot, in video games this function is limited by the different nature of the medium. In fact, in video games the frame is used as a window to provide the player with access to the virtual environment. As

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[105] Cf. John Gibbs, *Mise-en-scene – Film Style and Interpretation*, London: Wallflower, 2002.

previously stated, the cinematic device in video games works as a mediating device that negotiates between the freedom granted to the player's activity and the driving force of the narrative instance. For this reason, the mise-en-scene –intended as the process of creation and representation of environments out of spaces, with the inclusion of characters, objects and the potential for events in it– is at least as important in video games as it is in cinema. Through the staging process, video games develop strategies to guide the player's attention without limiting it within a fixed framing structure. More specifically, the argument made in these chapters is that the technological –in terms of graphic calculus power (hardware)– and technical –as in graphical engines in video games (software)– escalation eventually led to the implementation of an increasing number of cinematic techniques. The advent of a third pole (Sony PlayStation) in the video game industry in the 1990s[106] and the spreading of home consoles, combined with the development of new physical supports (CDs) with more memory available, led to a need for familiar codes of audiovsual representation and, consequently, to the increasing use of cinematic strategies. These strategies were implemented to facilitate users' need for mediation, providing them access to the virtual environment through familiar and codified means of representation.

Moreover, the availability of better graphical resources and instruments allowed the designer to explore more expressive aspects of video games' audiovisual language. Games such as *Uncharted 3*, *Mass Effect 3*[107], *Dead Space 2*[108], *Far Cry 3*,[109] *God of*

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[106] In 1994, Sony made its entrance in the market, which was dominated by Nintendo and Sega, outselling the two rival companies by the year 2000, when the PlayStation system owned 34% of the home-console market. Cf. Dominic Arsenault, 'System Profile: Sony PlayStation', in Mark P. Wolf (ed.), *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut: Greenwood Press, 2008, [pp. 177–82].

[107] *Mass Effect 3*, BioWare, Canada, 2012.

War 3[110] and *Assassin's Creed 3*[111] deploy staging and framing techniques and make use of the expressive qualities and functions of the virtual environments. These techniques allow for the environments to reflect/interpret/inform/affect the player-character and its psychological representation, providing a more detailed characterisation through the means of staging, lighting and virtual acting. At the same time, not only the aesthetic appeal but also the narrative quality can benefit from this more expressive use of the virtual environments. Finally, the analysis of these techniques leads to the individuation of some new tendencies in video game aesthetics such as *grand scale staging*, *environmental dynamicity*, *procedural vs scripted staging* and *expressive lighting* that show the extent to which mise-en-scene becomes one of the founding aspects of the cinematic aesthetic in video games.

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[108] *Dead Space 2*, Visceral Games, USA, 2011.
[109] *Far Cry 3*, Ubisoft Montreal and Ubisoft Bucharest, Canada/France, 2012.
[110] *God of War 3*, SCE Santa Monica Studio, USA, 2010.
[111] *Assassin's Creed 3*, Ubisoft Montreal and Ubisoft Bucharest, Canada/France, 2012.

Chapter 1: From stage to screen(s)

The first element to consider in order to analyse video game mise-en-scene is the stage, where environments take the form of of scenography that the player can explore and inhabit. At the same time, the analysis of the stage poses theoretical questions concerning the relationship between different media and their representational strategies. From the taxonomy of the video game mise-en-scene to the discourses that surround its reception, the stage is a central and focal element in this remediation process. This section aims to highlight the complexity of the virtual stage and its stratified nature in light of the relationship between multiple media. Although virtual environments have been studied for at least two decades now, and the concept is at the foundation of video games theory and practices, its organisation and aesthetic definition is still ambiguous, leaving some questions open for investigation. What is the video game stage? Is there such a thing? How is it structured? Which are the differences with the film stage and, as a consequence, with cinema mise-en-scene? What is its specificity?

Bordwell and Thompson describe mise-en-scene as the process of space construction before the mediation of the camera, thus the organisation of the profilmic space, the distribution of its elements and their characteristics.[112] Nevertheless, the concept of

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[112] The basic dichotomy between single shot and editing is a constant point in academic and critical film debates, defining two clear fields of investigation. The first one is the shot, which regards the creation of a profilmic environment, the construction of the mise-en-scene and the cinematographic elements of lights, framing and composition; the second one is the editing and its purely filmic analysis, or filmographic to use a definition recently elaborated by André Gaudreault. Guadreault retraces the evolution of the debate over the two main dimension of film analysis, the first one defined as ‘profilmic’ and the second one referred as ‘filmic’, focusing on the distinction between the two moments that characterise the meaning building process in films: 'monstration' and 'narration'. Combining these elements, Gaudreault creates a theoretical model in which 'monstration' is defined as the story making process through the manipulation of the image, the single shot, while 'narration' is the basis of the editing process. Cf. André Gaudreault, *From Plato to Lumière: Narration and Monstration in Literature and Cinema*, Toronto: University of Toronto Press, 2009.

mise-en-scene is a complex and stratified one, defined in radically different ways throughout the history of film practice and criticism. From the French use of the term, equivalent to the English “direction” and involving ‘everything from staging to editing and adding music’, to some slightly different interpretations that do not include the process of editing but only the dimension of the shot, which should ‘avoid cutting, creating significance and emotion chiefly by means of what happened within each shot’ the confines of mise-en-scene appear changeable and unstable.[113] Not only do the critics provide conflicting interpretations but also directors and artists elaborated their own versions. While Truffaut adopted a comprehensive definition using this word to describe the camera movements and all the cinematic tools of narration[114], Eisenstein developed the idea of mise-en-cadre, to highlight medium specificity[115], proving the complexity and the width of this concept.

As a result, this notion is still debated today. Contrasting the circumscribed definition adopted by some contemporary film theorists, John Gibbs translates the French “mise-en-scene” as ‘to put on stage’ defining it as ‘the contents of the frame and the way they are organised’, including: ‘lighting, costume, décor, properties, and the actors themselves’[116]. The first part of this definition coincides with the one provided elsewhere in film theory by authors such as Bordwell and Thompson, who adopt a similar translation using the expression ‘putting into scene’, describing it as ‘those aspects of film that overlap with the art of the theatre: setting, lighting, costume, and the behaviour of the figures. In controlling the mise-en-scene, the director stages the event for the camera’[117]. The definition advanced by Gibbs is precisely against the

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[113] David Bordwell, *Figures traced in light: on cinematic staging*, Berkeley: University of California Press, 2005, p. 11.

[114] Ibidem, p. 12.

[115] Ibidem, p. 17.

[116] John Gibbs, op. cit., 2002, p. 5.

[117] David Bordwell and Kristin Thompson, op. cit., 2004, p. 176.

identification of the concept of mise-en-scene with that of theatrical staging. The author individuates the key for understanding mise-en-scene in the 'interaction of elements'[118], the interplay between the profilmic level (the setting, the costumes, the lighting, the actors and their performance) and the filmic dimension (the composition of the frame, the camera position and its movements). This definition of mise-en-scene distances itself from the analytical perspective proposed by Bordwell, for the latter is not able to account for the complex relationship between the camera and the elements on stage.[119] As a consequence, alongside lighting, costume, colour, props, décor, action and performance, mise-en-scene is invested with the effects of camera position, entitled to 'govern our access to the action'[120], and space, defined as 'a vital expressive element at a film-maker's disposal'[121]. The prominent role of space in discourses on the mise-en-scene in films is of interest also in relation to video games. In fact, the concept of space is often considered central in Game Studies, to the point that some authors claim it as a distinctive and medium-specific element.[122] Nevertheless, authors such as Stephen Heath[123], Mark Garrett Cooper[124], Bordwell and Thompson[14] stress the importance of mise-en-scene as a set of tools to direct the attention of the spectator and how he/she makes sense out of space. Therefore the relevance of space as element of the meaning building process is common and shared by both media.

While acknowledging the high level of interdependency between the mise-en-scene

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[118] John Gibbs, op. cit., p. 27.

[119] The author directly references David Bordwell and Kristin Thompson's *Film Art* by stating that 'the definition offered in the book is misleading' because it 'makes no reference to framing, camera movement or the position of the camera'. Cf. John Gibbs, op. cit., p. 54.

[120] John Gibbs, op. cit., p. 19.

[121] John Gibbs, op. cit., p. 17.

[122] Cf. Michael Nitsche, *Video Game Spaces: Image, Play, and Structure in 3D Game Worlds*, Cambridge, Massachusetts: MIT Press, 2008

[123] Cf. Stephen Heath, 'Narrative Space', in *Screen* v. 17 (3), 1976, [pp. 68–112].

[124] Cf. Mark Garrett Cooper, 'Narrative Space' in Screen v. 43 (2), 2002, [pp. 139–157].

and the camera work, Bordwell and Thompson's model keeps these two aspects separated on a discursive level for analytical purposes. By recasting the practice of the mise-en-scene within a larger 'principle attainable in animation or computer-generated imagery, as long as the process retains the perspectival projection characteristic of camera lenses'[125], intermedial relevance of this element in contemporary audiovisual productions is clear.

Following the model proposed by Bordwell and Thompson, mise-en-scene can be articulated in three sub-layers: staging, actors and lighting[126]. Two more variables intersect this discourse to an extent that requires a proper consideration: space and time.

> The arrangement of the mise-en-scene creates the composition of the screen space. That two-dimensional composition consists of the organization of shapes, textures, and patterns of light and dark. In most films, though, the composition also represents a three-dimensional space in which the action occurs. Since the image projected on the screen is flat the mise-en-scene must give the audience cues that will enable us to infer the three-dimensionality of the scene[127].

The notion of mise-en-scene in video games is further complicated by the interaction of the player and his/her activity in the virtual environment. 'The added elements of navigation and interaction, however, lend an importance to the diegetic space which is unlike that found in film or television'[128]. In her seminal work *Hamlet on the*

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[125] David Bordwell, op. cit., 2005, p. 16.

[126] David Bordwell and Kirsten Thompson, op. cit, 2004, p.49.

[127] David Bordwell and Kirsten Thompson, op. cit, 2004, p. 208

[128] Mark J. P. Wolf, 'Inventing Space – Toward a Taxonomy of On- and Off-Screen Space in Video Games', in *Film Quarterly* v.51 (1), 1997, [pp. 11–23] p. 12.

Holodeck, Janet Murray defines the video game space as procedural, participatory, spatial and encyclopaedic[129]. The first two characteristics represent an attempt to synthesise the main traits of 'interactivity' in order to contain the loose use of this concept and support a more consistent application of it. The spatial and encyclopaedic characters instead define the quality of the 'immersion' within the virtual world.

> The experience of being transported to an elaborately simulated place is pleasurable in itself, regardless of the fantasy content. We refer to this experience as immersion. Immersion is a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from psychologically immersive experience that we do from a plunge in the ocean or swimming pool: the sensation of being surrounded by a completely other reality, as different as water from air, that takes over all of our attention, our whole perceptual apparatus. [130]

Thus the immersive space is said to be a spatial device to convey information, to allow the player the access to another world. Despite the early stage of development of the medium at that time (it is 1997 when the author writes this seminal work), the elements highlighted by Murray are of importance in order to understand some of the differences between film and video game staging, which differ firstly and most importantly in their functions. According to Bordwell and Thompson 'The filmmaker uses mise en scene to guide our attention across the screen, shaping our sense of the

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[129] Janet Murray, *Hamlet on the Holodeck – The Future of Narrative in Cyberspace*, Cambridge, Massachusetts: MIT Press, 1997, p. 80.

[130] Janet Murray, op, cit., 1997, p. 98.

space that is represented and emphasising certain parts of it'.[131] Instead for Murray: 'The new digital environments are characterised by their power to represent navigable space. Linear media such as books and films can portray space, either by verbal description or image, but only digital environments can present space that we can move through'.[132]

If on the one hand the element of interaction separates video games from films, on the other hand it draws connections to other forms such as that of theatre. As previously described, the theatre paradigm is fundamental in order to reconcile the fracture between the game and narrative through the figure of the performer/spectator. In fact, through the mediation of the audiovisual representation, the player is both performer and spectator of his/her own performance. The performance takes place in a space, which is organised according to the viewpoint of the player. In this sense, the video game world, both analysed from the side of the performer and the spectator, is built on a stage where the player plays a role within a confined environment. The proximity between theatre and video games is reflected on a linguistic level. Like the word theatre (from the Greek θέατρον), the term video game contains a reference to both sight (video) and a performative activity (game), showing the double nature of this medium inscribed in this word. This linguistic relation is extend to other words such as the verb "to play", which can be used to address both the act of "acting" and the one of taking part in a game.[133] It is indeed the verb "to play" that reveals the performative nature of the medium. To play in a game means to play a role, to interpret a character or to act in some way within the confined space and time of the 'magic circle', which Huizinga argues has

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[131] David Bordwell, Kristin Thompson, op. cit., 2004, p. 208

[132] Janet Murray, op. cit., 1997, p. 79.

[133] Cf. Matteo Bittanti, *Teatro Ludico. Il videogioco come arte performativa*, in Giovanni Canova (ed.), *Drammaturgie Multimediali. Media e forme narrative nell'epoca della riproducibilità digitale*, Milano: Unicopli, 2009, [pp. 43–60] p. 48.

characteristics similar to a ritual space, including that of theatre.[134] Just like in a play, the video game player puts on a mask, that of its player-character, in order to perform on the virtual stage. The virtual stage is structured through the mise-en-scene, with the establishment of a point of view according to which the scene is organised. Like at the cinema, through the detachment generated by the audiovisual mediation the virtual stage becomes also a virtual world, a *diegesis* in which the *mimetic* performance of the player takes place. The traditional Aristotelic juxtaposition between mimesis and diegesis is surpassed in the video game medium because it merges the performance of the player and its representation.[135]

The definition of a diegetic world is of importance in order to discern two main typologies of virtual environments. The first typology of video games aims to recreate a fictional diegetic world in which the player interprets a character, generally through the means of a player-character used to interact with the virtual world. The majority of mainstream titles, from *Spacewar!*[136] to *Uncharted 3*, fall into this category. The second typology of games does not portray or even suggest the existence of a fictional world to the users. Instead the video is a surrogate for game props such as the chess board or the pieces of a puzzle. This is for example the case in games such as *Tetris* and *Pong*. In this case, the video is almost a pure extension of the physical world, not requiring the *mimesis* of the player and the impersonation of a fictional character. Nevertheless, the borders between these two categories are often blurred, and not easy to define. On the one hand, the history of video games

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[134] Ibidem, p. 52.

[135] André Gaudreault rethinks the Aristotelian dichotomy between ‘diegesis’ (narration) and ‘mimesis’ (imitation) and solves it through a new philological analysis and interpretation. The author argues that against this radical juxtaposition by defining mimesis as a type of diegesis appealing to the original definitions of ‘haplé diegesis’ –translated as “simple diegesis”– and ‘diegesis dia mimeseos’ –interpreted as “diegesis through mimesis”. The absence of a dichotomy between these two categories is proven by the presence of mixed forms such as the ‘diegesis di’amphoteron’, demonstrating the fluid nature of these labels. Cf. André Gaudreault, op. cit., 2009.

[136] *Spacewar!*, Steve Russel, USA, 1962.

includes text-based games such as *Zork*[137] and the MUDs[138] which evolved into the adventure genre developing audiovisual strategies of representation, borrowed and adapted from other media such as cinema and television. Only the first group of games deploys staging techniques in order to portray a virtual world that sets the foundations for the existence of a diegesis.

Drawing upon Caillois's definition of game as a 'make-believe' activity that generates a 'second reality'[139] and Huizinga's conception of play as 'consciously "outside" the ordinary life' and as a '*dromenon*, which means "something acted", and act, action. […] That which is enacted, or the stuff of action, is a *drama*, which again means act, action represented on a stage',[140] Alexander Galloway makes a structural distinction between the diegetic and non-diegetic nature of the game.[141] This distinction is central to the first part of his work in which he identifies multiple elements that all together constitute the 'gaming event'. The author proposes a distinction between diegetic and non-diegetic based on the layered structured of video games. The non-diegetic describes those elements that 'are inside the total gamic apparatus and yet outside the portion of the apparatus that constitutes a pretended world of characters and story'[142]. Thus, according to the author the game always creates a diegetic universe that contains a world and its events. Nevertheless, due to the structure of the medium, this universe is mediated to us through a number of elements that constitute an interface (a HUD, the opening start screen etc.), which are placed outside the diegetic world and require a non-diegetic action in order to be

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[137] *Zork*, Infocom, 1979, USA.

[138] MUDs (Multy User Dungeons) are experimental games

[139] Roger Caillois, *Man, Play and Games*, trans. Meyer Barash, New York: Schocken Books, 1979, p. 10, quoted in Alexander R. Galloway, *Gaming. Essays on Algorithmic Culture*, Minneapolis/Lodon: University of Minnesota Press, 2006, p. 6.

[140] Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture*, Boston: Beacon, 1950, p. 13, quoted in Alexander R. Galloway, op. cit., 2006, p. 22.

[141] Alexander R. Galloway, op. cit., 2006, p. 2.

[142] Ibidem, p. 8.

activated. For this reason it is difficult to mark a clear distinctive line between diegetic and non-diegetic actions, as all these elements blur in the continuum flow of the gameplay activity.[143]

Moreover, the simultaneous ‘execution’ and ‘fruition’ of the performance, which is ‘unique’ and ‘transitory’[144], is characteristic of both theatre and video games. Like in theatre, the video game performance is played and watched at the same time, leading some scholars to argue for the performative rather than textual nature of the medium. Here the textual and the performative essences of the medium coexist. In video games the performance is based on a text –ergodic, interactive or even “hyper”– that structures the action of the player. The performative nature of the medium informs the mise-en-scene which, not unlike the theatrical stage, is organised in order to be performed. Derek Burrill[145] defines three types of games (closed, flat and open games) in accordance with the typology of performance required from the player in the virtual space. In particular, the author defines closed games, those titles in which ‘the player is limited by the visions of the designer, the performance of the technology, and the normative structures of the genre’, while open games are said to be ‘“box-like,” emphasizing the experiential rather than the competitive nature of

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[143] Especially with regards to discourses in film theory, not all video games provide the establishment of the same type of fictional world. The fictional world discussed in the performative activity of play, as described by Callois and Hiuzinga, requires the player to abide by and endorse rules and structures within a circumscribed space rather than project himself/herself in an alternative world. The presence of non-diegetic elements in video game interfaces is clearly relevant. Nevertheless, some questions can be raised on the diegetic status also of some game environment**[s]**. As previously mentioned in this work, there is a radical distinction between at least two typologies of video games: those that require the presence of an avatar that is used by the player as a vessel to explore the virtual world; those that don’t require the player to imagine his/her presence within the fictional world of the video game, due to the lack of a vessel or even to the very absence of a very fictional world.

[144] Cf. Matteo Bittanti, op. cit., 2009, p. 56.

[145] Cf. Derek Alexander Burrill, ‘Out of the Box: Performance, Drama, and Interactive Software’, in *Modern Drama*, v. 48(3), 2005, [pp. 492–512].

play'.[146] The author uses *Tomb Raider*[147] as an example of a closed game, in which the apparent freedom allowed to the performance is instead constrained by the structure of the virtual environment. Open games such as *Second Life*[148] are often labelled as "sandbox", precisely referencing the freedom of the activity available within the limits of the virtual world and its tools. No linear path is prescribed in these titles, and the attention of the player is focused on the experience rather than on reaching a defined goal. Thus, the character of the performance depends on the typology of space, supporting Henry Jenkins's conceptualisation[149] of environmental storytelling.[150] Most importantly, Burrill underlines the merging of these typologies within the same games, allowing different kinds of performance available to the player within the same environment. Games such as *Grand Theft Auto IV*[151] drive the player through a semi-linear narrative (composed by a linear main narrative arch and non-linear side missions and activities) that is structured through space rather than in time.[152] Thus the performative character of the game, its mimetic and diegetic nature points towards a definition of video game that surpasses its ludic denotation.

> Video games are not just video games. The subjective dramas that they stage, whether on a screen or in an arcade, always already refer to a rift in the postmodern subject, a rift that is maintained and massaged by the act

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[146] Derek Alexander Burrill, op. cit, 2005, p. 496.

[147] *Tomb Raider*, Core Design, UK, 1996.

[148] *Second Life*, Linden Lab. 2003, USA.

[149] Cf. Henry Jenkins, 'Game Design as Narrative Architecture', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 11—130].

[150] The theorisation of environmental storytelling is originally attributed to Don Carson who elaborates it in relation to theme parks and video games. Cf. Don Carson, 'Environmental Storytelling: Creating Immersive 3D Worlds Using Lessons Learned from the Theme Park Industry', in *Gamasutra* (1 March, 2000). Retrieved from http://www.gamasutra.com/view/feature/3186/environmental_storytelling_.php (accessed on 21/07/2015).

[151] *Grand Theft Auto IV*, Rockstar North, 2008, UK.

[152] The missions are generally available at any time and they are activated through spatial thresholds, by meeting a character in a specific point of the map or by entering a building.

> of play, by the machines of capital, by the illusions of ideology.[153]

The video game is problematized for its potential as 'subjective drama', capable of interpreting the identity of the 'postmodern subject'. This argument is consistent with Janet Murray's thesis[154] on the ability of video games to interpret the narrative needs of individuals in the contemporary postmodern world, and together they outline a social urge that is projected on a medium and its aesthetics. Video games allow the player to enter a virtual stage where they can build alternative identities, commodified within a safe space that simulates the impression of reality. In this sense the idea of performance is fundamental to analysis of this medium, in order to detach it from the cinematic paradigm and highlight its different function. As noted by Bittanti, the performative nature of video games and the simultaneous execution and fruition point at the live character of this medium and demonstrate its connections with theatre. For this reason, video games and theatre's 'liveness' are often juxtaposed to the 'dead' character of cinema.[155] Aside from the extreme position of the author, Bittanti's argument recalls comparable Bazinian ideas of past and present, in which cinema was the interpreter of contemporaneity compared with the static character of photography, relegated to a past dimension of motionless memories. Like television before, video games activates the sense of the "present" that is embedded in the idea of liveness, recasting the cinematographic image in the realm of recent-memory. Video games position the player in a persistent present, a dimension of "hyper-present" framed *hic et nunc*, in which every stimulus around is

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[153] Derek Alexander Burrill, op. cit, 2005, p. 510.

[154] Janet Murray, 'From Game-Story to Cyberdrama', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 2–11] p. 3, 4.

[155] Cf. Matteo Bittanti, op. cit., 2009, p. 59.

nullified by the cognitive 'flow'[156] of the player focused on the medium. Liveness comes from the sense of immediacy provided by the interaction with the virtual world. By means of hyper-mediation (the mediation of other media forms such as theatre, cinema and television) video games promise a film that can be performed in an extemporaneous way, generating the perfect dimension to fulfil the postmodern dream of a liquid identity. Just like television before, video games reclaim a proximity to the user, not only invading the home screens, but also pulling the player inside them, blurring the borders between audience and performer. According to Philip Auslender, the concept of liveness, traditionally associated with theatre and performance, in contemporary society is tightly connected to the process of mediatisation:

> The progressive diminution of previous distinctions between the live and the mediatized, in which live events are becoming ever more like mediatized ones, raises for me the question of whether there really are clear-cut ontological distinctions between live forms and mediatized ones.[157]

Auslander recalls the pioneering account of Nicholas Vardac on the relationship between theatre and cinema between the 19th and 20th century providing fascinating intermedial reflections that anticipate the work of media theorists such as Marshall McLuhan, Bolter and Grusin, and Lev Manovich.[158] Vardac suggests a sense of linguistic development from theatre to cinema in a race for realism and realistic

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[156] Cf. Mihaly Csikszentmihalyi, *Flow: The Psychology of Optimal Experience*, New York: Harper Perennial, 2002.

[157] Philip Auslander, *Liveness: Performance in a Mediatized Culture* (2nd ed.), New York/London: Routledge, 2008 (1999), p. 7.

[158] Philip Auslander, op. cit., 2008, p. 11.

representation, under the influence of the positivist thinking of the 18th century.[159]

> The necessity for greater pictorial realism in the arts of theatre appears as the logical impetus to the invention of cinema. This "necessity", an aesthetic tension of the nineteenth century, found its preliminary satisfaction in the theatrical forms preceding and surrounding the arrival of the film[160].

The concept of "social tension"[161] is used in order to explain the improvement of realistic representation in theatre, photography and cinema, tied to scientific and technological progresses. In spite of the inaccuracy and partiality of Vardac's account of the aesthetic and technical developments in theatre, his comparative approach interestingly precedes and aligns with the work of authors such as Bolter and Grusin, by tracking formal and aesthetic intermedial relationships between multiple devices and (literally) stages.

> New digital media are not external agents that come to disrupt an unsuspecting culture. They emerge from within cultural contexts, and they refashion other media, which are embedded in the same or similar contexts[162].

Indeed Vardac's work favours a reading of the cinematic invention as consequential

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[159] Vardac's work has been criticised due to the inaccurate analysis of the theatrical form based on the idea of the expressive hegemony of cinema over theatre. According to Vardac, the development of the cinematic form was determined by the absence of the same expressive potential in theatre, which is not verified in the documents of the time. Cf. Ben Brewster and Lea Jacobs, *Theatre to Cinema*, Oxford University Press, 1997.

[160] Nicholas Vardac, *Stage to Screen – Theatrical method from Garrick to Griffith*, New York: Inc. Bronx, 1968 (1949), p. XX.

[161] The author borrows this concept from the work of Waldemar Kaempffert, *Invention as a social manifestation*, p. 21, quoted in Charles A. Beard (ed.), *A century of Progress*, New York, 1935.

[162] Jay David Bolter and Richard Grusin, op. cit, 1999, p. 18

to the need for “pictorial realism”[163] at the end of the 19th century, when the specific socio-cultural context developed a “social tension” pushing towards perfecting representation through mechanical means. Among other examples, Vardac describes some of the staging innovations brought by the melodrama, in which a two levelled stage was built in order to increase the sense of immersion and realism of the scene allowing the use of ‘cross-cutting development within a simultaneous setting, the second act specified straightforward pictorial continuity’[164]. The use of such techniques led to the development of an embryonic audiovisual language, anticipating the rise of the cinema.

> The production was devised to tell the story by means of a series of pictures […] As in the early film, every episode in the story line was shown on the stage, and the attempt was made to dissolve one set into the next with the conventional techniques. There is clear indication here of a highly cinematic conception being limited and debased in its production by the traditional staging devices.[165]

At the same time, the use of sophisticated staging techniques caused the level of audiovisual literacy of the audience to increase. As a consequence, Vardac envisions a possible causal link with the development of a new medium capable of “refashioning” –in Bolter and Grusin’s words– and adapting these elements, which are essential and inscribed in the new medium, emphasising the formal continuity between theatre and cinema:

> The construction indicated in the promptscript discloses another attempt to

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[163] Nicholas Vardac, op. cit., 1968, p. XXVI.
[164] Ibidem, p. 23.
[165] Ibidem, p. 24.

> use conventional practices for the staging of material properly in the province of film. Its dramatic development hinges upon the technique of cutting from stage pictures of episodes in one line of action to those occurring simultaneously in another, or of proceeding directly through a series of stage pictures in a single line, or of combining the two methods in to a rudimentary cinematic pattern involving flashbacks, cross-cutting, and simple pictorial continuity, and employing fourteen scenes in three acts.[166]

The concept of "social tension" in Vardac's work is of interest due to its many articulations that connect the aesthetics to a larger social context. Economy, politics and the scientific development are here ted together to aesthetic forms. In a similar way, nowadays video games seem to emerge from a need for agency[167] and immediacy[168]. Brewster and Jacobs criticise the ambiguity of the term "realism" in Vardac's work, which they argue is intended both as the characteristic of dealing with 'important social and psychological issues of the day' and, at the same time, as the demand for the 'representation to be "lifelike"'.[169] The lifelike character of the representation leads to its perception as real and "live".

> Vardac shows how film remediated theatre by adopting the narrative structures and visual strategies of nineteenth-century melodrama. Whereas film could only remediate the theatre at these structural levels, television could remediate theatre at the ontological level through its claim to

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[166] Ibidem, p. 41.
[167] Cf. Janet Murray, op. cit., 1997.
[168] Jay David Bolter and Richard Grusin, op. cit. 1999, pp. 88–103.
[169] Ben Brewster and Lea Jacobs, op. cit., 1997, p. 6.

> immediacy.[170]

According to Auslender, ‘liveness is defined historically and is always open to redefinition with the appearance of new technologies’[171]. While cinema could imitate the theatrical structure in its staging and representative techniques, television inherited its “live” character. This live character is in fact a product of the perception of the spectator rather than as intrinsic characteristic of the medium. In the 21st century, video games finally combine these elements with that of performance. Players can interact within a virtual stage, being simultaneously televised through cinematic techniques, generating a dynamic performance that is “mediatized”: ‘the pleasure of computer games […] is a technological pleasure. It is a pleasure of accessing, witnessing and performing technologically mediated environments’.[172] Moreover, Brewster and Jacobs separate the idea of realism from the notion of spectacle, which instead overlap in Vardac’s work. Spectacle, in fact, is said to be present and strong in theatre, not replaced by cinema.

> Finally, a spectacular effect depends on the audience's perception of the disproportion between the reality represented and the means used to represent it. […] Photography suffers from a modified form of what might be called the “Parmeno's pig effect”. Its products are “real things” like the pig to which Parmeno's mimicked pig was preferred, but they rapidly came to be seen as mere mechanical copies of such things. The earliest viewers experienced the movement in moving pictures as the result of a technical

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[170] Philip Auslander, op. cit., 2008, p. 169.

[171] Ibidem, p. 169.

[172] Andrew Mactavish, ‘Technological Pleasure: The Performance and Narrative of Technology in *Half Life* and other Hight-Tech Computer Games’, in Geoff King and Tanya Krzywinska (eds.), *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower Press, 2002, [pp. 33–49] p. 46.

> marvel, but once they were familiar with the moving picture camera as a recording device, the effect was lost[173].

As for liveness, the concept of spectacle is not objective and fixed in time, but dependent on the expectation of the viewer: '[it] is simply the nature of illusionistic effects in any medium–they wear out quite easily'[174]. Thus, the history of media consumption reveals a pattern in relation to novelty. The consumption habit is, in a way, related to the notion of spectacle and technical novelty. The spectacle is in this case not only coming from the object of the representation, but also from the device that produces it and its ability to mechanically reproduce images of the world. Thus, as highlighted by Brewster and Jacob, just like "liveness", spectacle comes from the negotiation between the expectations of the audience towards the medium and its ability to meet or possibly surpass them. The definition of spectacle is tightly connected to the medium's technical development, which is used to evaluate the medium's representative capacity. The problem seems rather to lie in the notion of "realism", which has been used to address an inconsistent variety of elements. It seems more likely that Vardac's account refers firstly to the "life-like" character of the image or, borrowing from Metz and Tom Gunning, to an 'impression of reality'[175] rather than "realism". The impression of reality is again relative and amplified by the cognitive dissonance between the audience's expectation and the technical novelty that Brewster and Jacobs place at the basis of "spectacle".[176] In

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[173] Ben Brewster and Lea Jacobs, op. cit., 1997, p. 8.

[174] Ibidem, p. 7.

[175] Cf. Tom Gunning, 'Moving Away from the Index: Cinema and the Impression of Reality', in *Differences. A journal for feminist cultural studies* v.18 (1), 2007, [pp. 29–52].

[176] Among others, the work of Christian Metz represents a notable example in the debate around the phenomenological relationship between theatre and cinema. Referencing the works of Henry Wallon and Jean Leirens, Metz argues that 'The theatrical spectacle […], cannot be a convincing duplication of life, because it is itself a part of life, and too visibly' (p. 10). On the contrary, 'In the

Bolter and Grusin's work the fixation with the reproduction of reality passed from theatre through cinema eventually reaching newer media.

> Bazin (1980) concluded that "photography and the cinema […] are discoveries that satisfy, once and for all and in its very essence, our obsession with realism," yet he was certainly wrong. These two visual technologies did not satisfy our culture's desire for immediacy.[177]

In accordance with Vardac's intuition, Bolter and Grusin identify a tendency towards the enhancement of the visual replication of reality, which cinema can only partially fulfil due to the absence of liveness and agency needed to enhance the "illusion of reality" in video games, also providing a higher level of spectacle due to the impact of novelty on the user.[178] Despite the similarities with Brewster and Jacobs's account, Bolter and Grusin reach different conclusions. The inability of cinema to recreate a perfect sense of realism does not imply the absence of such intention in the development of the medium. Moreover, in their work, the concept of realism intended as a realistic representation of objects on a screen –also referred to as photorealism– ceased to be. Referencing Ronald Barthes's *Camera Lucida*, they argue that the desire of immediacy is present even 'without the object in the image having existed', as digital photography obliterates the necessity of a referent outside the world of the representation. As a consequence, digital media cast the term photorealism 'out of existence'.[179] In video games, the stage becomes a pure

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cinema the impression of reality is also the reality of the impression, the real presence of motion' (p. 9). Quoting Leirens, he claims that 'The film spectacle produces a strong impression of reality because it corresponds to a "vacuum, which dreams readily fill" (p. 10). Cfr. Christian Metz, *Film Language: a semiotics of cinema*, Chicago: University of Chicago Press, 1974.

[177] Jay David Bolter and Richard Grusin, op. cit., 1999, p. 26.

[178] Ben Brewster and Lea Jacobs, op. cit., 1997, p. 8.

[179] Jay David Bolter, Richard Grusin, op. cit., 1999, p. 106.

abstraction, a simulation of the world; or more accurately a simulation of a stage that presupposes the presence of a user, who is assigned a point of view according to which the virtual world is “staged”. The recurrent use of specific genres and textual typologies, such as historical accounts or settings, crosses the three platforms (theatre, cinema and video games) as they provide opportunities to display spectacle through their ‘correctness’[180], meaning the accuracy and believability of the representation. Historical representations, in fact, legitimate the medium and its representational capacity. In the game industry developers often make reference to the fidelity of the environments and the objects represented in the games. While series such as *Call of Duty* and *Battlefield* stress the accuracy in the reproduction of weapons and shooting mechanics, a game such as *Tomb Raider: Underworld*[181] makes explicit reference to its historical character, advertised in relation to the accuracy of the detail of the environments offered.[182] Although these environments are admittedly fictional, they are offered to the player as believable because although differing overall from their source materials they resemble their style and the details, offering a “realistic” fictional experience.

The analogy between these media does not only develop in relation to their function and fruition, but it is also traceable in the critical discourses surrounding them. For

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[180] Nicholas Vardac, op. cit., 1968, p. 101.

[181] *Tomb Raider Underworld*, Crystal Dynamics, 2008, USA.

[182] The release of *Tomb Raider: Underworld* has been preceded by a number of video/developers-diaries that describe the main features of the title. This form of paratext, mostly used for advertisement, is now in fashion, used to attract potential buyers to pre-order the products. Not only major titles such as *Assassin's Creed III*, *Halo 4* (Bungie, tba, USA), *Dead Space 3* (Visceral Games, 2013, USA) but also for indie titles as for example *Natural Selection II* (Unknown Worlds Entertainment, USA, 2012) and *Overgrowth* (Wolfire Games, USA, t.b.a.).
In the *Developer diary: A hero awakens*, the developers of *Halo 4*' highlight the character development of Master Chief (protagonist of the saga) as he is portrayed in a ‘more human’ way, hence as a more realistic character. Contextually, the video emphasises also the technical quality of the title in simulating characters**[’]** facial expressions and gestures, showing fragments of the motion capture process (retrieved from http://www.gametrailers.com/videos/psotlh/halo-4-developer-diary—a-hero-awakens).

example, some of the accounts of the Spectatorium (a rotating multifunctional stage at the World's Fair: Columbian Exposition of Chicago in 1893) stress the fascination with some technologies such as the 'cyclone machinery' and the 'current-and-wave-makers' which were considered 'capable of producing, in the most realistic manner, all sorts of land- and water-scape effects, and every kind of weather, as well as natural illuminating effects'[183]. Further on, the account of this spectacle focuses on the 'optical phenomena produced by the passage of time from night, through early dawn, the rising of the sun, through all the hours of the day with their changing shadows'.[184] The fascination with optical effects, especially for lighting, and the reproduction of natural elements are central aspect of video games' technical novelty and their quality is often used in order to judge and assess the titles. For example, *Bioshock* [185] has been advertised for its realistic water effects[186], while *Far Cry 2*[187] was praised by the press for featuring realistic fire. Moreover, in his work, Vardac provides a survey of theatrical technical innovations in the 19th century, such as the improvements related to the lighting techniques with the passage from oil/gas-lights to electric ones that initially deconstructed the illusion of tridimensionality revealing (due to their strong illumination) the deception of the two-dimensional backgrounds and stage work. The anxiety to showcase the technological novelties can at times result in an impoverishment of the resulting representation when technique and technology do not match, confirming the ambivalent potential of novelty. Similarly, in video games the exhibition of powerful hardware and peculiar graphic effects within the wrong context or technique can prevent the immersion of the player by

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[183] Press notice in MacKaye, *Epoch*, II, 345, quoted in Nicholas Vardac, op. cit., 1968, p. 147.

[184] Ibidem, p. 147.

[185] *Bioshock*, 2k Boston/2k Australia, USA/Australia, 2007.

[186] Cf. 'Bioshock – Water Effects' in *Eurogamer.net* (1/05/2007). Retrieved from: http://www.eurogamer.net/videos/bioshock_water-effects (accessed on 14/10/2013).

[187] *Far Cry 2*, Ubisoft Montreal, 2008, Canada.

drawing attention to the spectacular novelty. This theory is consistent with the model proposed by Andrew Mactavish, who draws from Brooks Landon's ‘aesthetic of ambivalence’, defined as the double effect that spectacle can exert on the player’s experience: ‘the spectator oscillates between being immersed in the film's fantasy world and being awe of its special effects’.[188]

Not only is the development of a new medium driven by the desires, needs and expectations already present in the theatrical medium, but also the same tension pushed this medium to establish the basis for the linguistic development of subsequent representational media. Ben Brewster and Lea Jacobs[189] disagree on Vardac’s theory, and argue that the realist evolution of the medium is based on a much wider persistency of the pictorialism also in cinema, at the beginning of the twentieth century. Nevertheless, it is arguable that Vardac’s theories –the identification of an aesthetic force towards spectacularisation and the technical perfecting of representation, the intermedial relationship and the linguistic continuity– are of interest not only in relation to cinema but also to the evolution of the videoludic medium. Although Vardac’s loose use of the term “realism” may be problematic for identifying and discerning specific properties and characteristics, his arguments on the relationship between “realism” and “spectacle” are still relevant today. In fact, the interplay between these two elements is fundamental for the rise of new means of representation. Clearly, Vardac’s definition of realism is connected to the concept of photographic quality –intended as the mechanically mediated representation of the physical world– inscribed in cinema, that characterised, as underlined also by Bolter and Grusin, a large part of the discourses and theories on

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[188] Andrew Mactavish, op. cit., 2002, p. 43.

[189] Cf. Ben Brewster and Lea Jacobs, op. cit., 1997.

it.[190] This priority is also evident in the video game medium, in which "spectacle" and "realism" are at the centre of the critical discourses. To borrow Vardac's terminology, the evolution of this medium points at a new social tension that combines live performance and the cinematic instance within a synthetic world. Again, Huizinga's understanding of "play" highlights the performative character of this activity: 'for here "representation" is really identification, the mystic repetition or re-presentation of the event. The rite produces the effect which is then not so much shown figuratively as actually reproduced in the action'.[191] This tension reveals the aspiration to go beyond the emulation of the theatrical mimesis and the reproduction of the cinematic diegesis, towards a full simulation that combines the two. From an etymological perspective, the first two share a common ground, as both emulation and simulation mediate the representation of reality in a more abstract way than what is accomplished by cinema. Cinema and photographic systems of representation replicate reality on a perceptual level, whilst theatre and video games imitate it. In the media triangulation of theatre, cinema and videogames, the reception of spectacle and its relationship with narration seems to be a recurrent topic. Already in theatre, increased experimentation in terms of spectacle and technical novelty affected the narrative structures of some plays, in which dialogues were overcome by the demand for spectacle.[192] A similar point is central in the critical discourses on cinema, not only in the early days of development of the medium, but still today, with the pervasive presence of computer generated imagery

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[190] Tom Gunning summarises and challenges the question of indexical realism as the founding characteristic of cinema, arguing for the retrieval of the notion of movement, which speculation would inversely inscribe cinema in a larger tradition of animation. Once again, the argument of the author expands the theoretical borders of the medium, claiming for a larger and more inclusive tradition of media studies. Cf. Tom Gunning, op. cit., 2007.

[191] Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture*, Boston: Beacon, 1950, p. 13, quoted in Alexander R. Galloway, op. cit. 2006, p. 22.

[192] Vardac reports on the exhibition of technical novelty that is, in some work, prioritized over the narrative quality. Nicholas Vardac, op. cit.,1968, p. 42.

(CGI) in contemporary productions that raises questions of technological determinism. Paradoxically, while this argument in cinema comes from the indexical status of the film disrupted by the digital exhibition of spectacle, similar claims are made in relation to video games in which, often, the prominence of the technological innovation is accused of overshadowing and limiting its artistic development. The words of John Carmack,[193] lead designer of ID Software are representative of this attitude: ‘Story in a game is like a story in a porn movie. It’s expected to be there, but it’s not that important’.[194] Not only do these arguments resemble the ones detected by Vardac –in relation to some of the most spectacle-oriented, works the author defines the story as the ‘skeleton for the hanging of spectacular effects’–[195] but it also provides a metacritical perspective on the paratexts and discourses around the relationship between spectacle and narration, which is translated in the antagonism between the medium and its message. The hypermediation and assertiveness of the medium, to be found in the spectacularisation of its technical affordances, makes the audience/user aware of the medium itself, detaching it from the object of the representation.

Critical discourses on video games and their reception are often characterised by a sense of technological determinism that emphasises the technological novelty over the contents of the products. This is clearly evinced from the assessment standards adopted by the specialised press and online magazines. Most of the times, there is one entry dedicated to “graphics”, used to evaluate the graphical quality of the game.

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[193] John Carmack is the leader designer of the series *Quake* (Id Software, USA, 1996) and cofounder of the ID software. *Quake* is one of the milestones in the video game history for a number of different reasons. This title is considered to be extremely influential first of all because of the technical innovation that offered on its release.

[194] David Kushner, *Masters of Doom: how two guys created an empire and transformed pop culture*, New York: Random House, 2004, p. 108.

[195] Nicholas Vardac, op. cit., 1968, p. 160.

The paradigm of this entry also changes, adapted to the most up to date technological features, shifting the focus of their evaluation according to new hardware and software innovations. While during the second half of the 1990s' elements such as filtering, texture resolution and the number of polygons were some of the main elements under the scrutiny of the critics, more recently attention has shifted to the quality of lighting, the animation of the characters, the depth of field, the physics and shaders[196].

The spectacle of digital technology and its constant development is not related only to video games but involves the omnipresent obsession with technological progression, which often has very little to do with any improvement of the functions of the devices. In this sense video games fall in to the tradition of the 'digitabilia',[197] which defines the constellation of digital products that provide a source of spectacle beyond their functions, on the basis of their constant improvement. This is the admiration for the hardware and its technical specifics that are objects of spectacle *a priori*, before the release of any gameplay footage to prove their innovative potential. In this sense, the video game stage, just like Murray's holodeck, falls in the tradition of the 'mirabilia' that defines the video games as 'a situated system, which nonetheless has indents and roots that can be traced back to visual experience from

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[196] The shaders are programs generally used during the rendering process to produce special effects in cinema and dynamic effects in video games. The shaders allow a more flexible programming pipeline providing high rendering result without excessively affecting the calculus power of the machines. There are many typologies of shader used for different aspects of the rendering. While the majority of the shaders are generally used in order to manipulate lights (vertex shaders), textures and pixels (pixel shaders), recently these techniques are used also to produce geometrical elements on the fly (geometry shaders). The use of shaders not only allows the program to produce dynamic effects that can be calculated contextually, but is also used in order to save calculus power, generating only the elements that must be visualised at each given moment, ignoring those that are not of interest for the rendering process.

[197] Federico Giordano, Marco Benoît Carbone, 'Mirabilia/Digitabilia. Spazi della visioni, meraviglie interattive', in Elisa Mandelli e Valentina Re (eds.), Fate il vostro gioco: cinema e videogame nella rete: pratiche di contaminazione – Atti della giornata di studi, Venezia, Università Ca' Foscari 19 novembre 2010, Crocetta del Montello: Terra Ferma, 2011, [pp. 40–52].

the past, that develops a sense of marvel through the spatial construction of the dispositif and texts, structured through a performative-spectacular character, a visual-superficial one, an attractive-sensorial one'.[198]

Nevertheless, technological and technical innovations do not always affect the structure of the game. Video games with drastically different graphics and from different years often offer similar gameplay styles, as their structure remains unaltered. An example of this paradigm can often be found in video games series in which the gameplay of the first title is often not too different from that of its sequels. Technological development offers to the developers only the "possibility" to innovate the game on a structural level. Dominic Arsenault and Pierre-Marc Côté use the concept of 'graphical regimes' to define the trajectory of innovation in video games:

> The graphical regime is to be understood as the junction point between gameplay and graphics: it is defined as *the imaging of gameplay and the gameplay of the image*, independently of the technological graphical capabilities or limitations. As such, it serves to describe the range of affordances that the game creators open or close for the player as a result of visual configurations.[199]

Technological and technical innovations thus do not always produce a change in terms of gameplay and functionalities. Nevertheless, innovation is not necessarly

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[198] Federico Giordano, Marco Benoît Carbone, op. cit., 2011, p. 46 (translated by the author).

[199] Dominic Arsenault, Pierre-Marc Côté, 'Reverse-engineering graphical innovation', in GAME., Games as Art, Media and Entertainment, v. 2 (1), 2013. Retrieved from: http://www.gamejournal.it/reverse-engineering-graphical-innovation-an-introduction-to-graphical-regimes/#.UhYm52R5xi4

confined to the affordances available to the player in terms of controls, in the gameplay or the structure of the game. Sometime, technological innovations, even when they are used in order to increase the amount of graphic detail of a scene, can affect the player on a psychological and emotional level, interacting with him on a symbolic level that can affect the performance of the player, the response to the text and the interpretation of it. The addition of visual detail to a scene can encourage the player to explore it and to experience it in a different way. Graphic detail can be used not only as a form of spectacle or to provide players with new actions, but also as an expressive tool in the hands of the developers, compensating for the limits imposed on the performance or, even better, exploiting the hybrid nature of video games to stimulate the performance with audiovisual cues.

Video games' virtual environments operate, in fact, in ways similar to theatrical stages. The player is given a role that he/she can interpret in different ways, wearing a mask –the one of the player-character– and loosely following the part given. The character and typology of the stage is fundamental in order to determine the nature of the performance and its limits. An analysis of the video game space, its characteristics and typologies is fundamental in order to understand the ways in which the mise-en-scene can be organised.

Chapter 2 – Scripted staging and issues of space in video game aesthetics

The analysis of mise-en-scene is tightly connected to the concept of space. In fact, as previously stated, mise-en-scene is the organisation of the space for its "exhibition" in relation to a viewpoint. The resulting spatial organisation is the environment in which both the events and their representation take place. In one of the most compelling and relevant attempts to describe video games spaces through means of film theory, Mark J. P. Wolf underlines that '[...] unlike film, off-screen space in a video game does not have a pro-filmic referent the way a filmed space often does'.[200] The video game "stage" is a sign without a direct referent in the physical world and it is not the product of image reproduction, but the result of a simulation. Thus, the video game image has not indexical proximity. While cinema, at least in its analogic definition, results from the impression of light on a film that captures the scene before the camera, the video game image has no direct referential relationship between what is being represented and the physical world. Due to the young age of the discipline, the taxonomy used in order to identify video game spaces changes according to the context in which the discourses are produced, introducing a variety of labels, each connoted in different ways. From the designers' and users' perspective, the word "level" is used to identify a circumscribed portion of the virtual environment, a unit of measurement that defines a piece of space with a beginning and an end.[201] As in a Chinese box, this definition opens questions and problems of

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[200] Mark J. P. Wolf, 'Inventing Space – Toward a Taxonomy of On- and Off-Screen Space in Video Games', in *Film Quarterly* v.51 (1), 1997, [pp. 11–23] p. 12.

[201] The word "level", although surely tied to a spatial concept, can also more broadly denote the set of elements and aspects contained in a defined portion of the game. This not only includes the spatial environment, the characters and all the objects in it, but also the portion of narration connected to it, thus the events that take place in that environment and that are an integral part of the designing process. The traditional taxonomy is further articulated with the distinction between levels and worlds, the latter term generally including the former, individuating a larger piece of text. Coming from the platform genre tradition –which reflects the importance of the spatial organisation in the

univocal identification and, at the same time, coherent understanding. In fact, though the majority of games are structured in levels this model does not give account of the totality of cases. On the one hand, the word "level" is informed with the designing process according to which the video game space is divided in modular subsections. This division makes it feasible for the programmer to independently design each level,[202] and for the machine to process it according to the technical limits of the hardware. Similar observations are provided by Newman, who comments on the persistence of this organisation beyond its technical functionality:

> We have noted already that videogames are, almost without exception, separated into different levels or stages and while this structure may have arisen from technological constraints, for various reasons, including the patterns of play and engagement, it remains durable and convenient.[203]

On the other hand, the word "level" seems inadequate to describe those games that do not use a fragmented space structure, and instead employ a continuous space such

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name of the genre– these games are structured in macro and micro areas, respectively called "worlds" and "levels". Generally, a world is characterised by a theme, some specific narrative cohesion or a peculiar graphic style that is reflected in each level contained within it. This distinction is particularly valid in relation to Japanese platform games, which strongly invest in the stylistic characterisation of the environments often through the association with specific themes to each world. Still today, titles such as *Super Mario Galaxy* (Nintendo, Japan, 2007) or the English *Little Big Planet 2* (Media Molecule, UK, 2011) –which heavily draws from the same tradition– are based on this structure that provides a variety of graphic styles and patterns. For example, the majority of these games would contain a world dedicated to elements such as ice, water and fire, in which the levels exploit the theme of the element in different and specific ways (Cf. James Newman, *Videogames – Second Edition*, Oxon: Routledge, 2013 [2004], p. 81). Examples of that can be the elemental themed 'Snow Cap Galaxy' and the 'Melty Molten Galaxy' in *Super Mario Galaxy* and the factory themed 'The Factory of a Better Tomorrow' and the naturalistic themed 'Eve's Asylum' worlds in *Little Big Planet 2*. The focus in the level design of these titles is placed mostly on providing a graphical and artistic design variety, rather than pursuing narrative spatial cohesion –this is instead the case of *Metal Gear Solid 4*– or environments that offer peculiar gameplay situations like in *Uncharted 3*.

[202] Again, this concept recalls one of the characteristics that Manovich ascribes to new media, that of modularity. This process allows for a collective and parallel work on the same software, where unlike in cinema where the majority of the crew would be focused on the same piece of work, programmer**[s]** work independently and on different parts of the project.

[203] James Newman, op. cit., 2013, p. 116.

as *Grand Theft Auto IV*, *Far Cry 2,*[204] *Flight Simulator,*[205] *Elder Scrolls V: Skyrim.*[206] For this reason in theoretical contexts and discourses the labels “virtual world”, “digital space” and “digital environments” are often deployed in order to give account of the complexity and full spectrum of spatial articulation in video games.

Among others, Wolf[207] and Nitsche[208] have explored the concept of space in relation to cinematic and filmic discourses. In particular, while the former focuses on the “filmic” level, dealing with the space inside and outside the screen frame, Nitsche focuses also on its profilmic acceptation, thus considering the environment in which the player moves rather than its representation within the frame.[209] Yet, it seems that the use of concepts such as mise-en-scene and staging can contribute to the understanding of spatial organisation in video games, its strategies and techniques determined by the establishment of a viewpoint that determines how the space is organised. The importance of the mise-en-scene is evident especially in relation to the work of authors such as Henry Jenkins and Nitsche on environmental narration, which is considered the primary means of storytelling in video games. In fact, given the constraints imposed on the narrative instance, it has been necessary to develop different strategies that allow the author/designer to delineate a path, events and, more generally, a world charged with narration and yet interactive. To this aim, in

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[204] *Far Cry 2*, Ubisoft Montreal, Canada, 2008.

[205] *Flight Simulator*, Microsoft Game Studios, USA, 2006.

[206] *Elder Scrolls V: Skyrim*, Bethesda Softworks, USA, 2011.

[207] Cf. Mark J. P. Wolf, op. cit., 1997.

[208] Cf. Michael Nitsche, op. cit., 2008.

[209] Due to this interpretation of the concept of space, Nitsche narrows the field of his research to three-dimensional videogames. Doing so, the author dismiss problems related to the spatial articulation in bi-dimensional video games, consequently avoiding the problem of the point of view and spatial articulation in genres such as the puzzle game, in which the borders between the game space and the player space are blurred. While the creation of a three-dimensional space – often associated with the presence of an avatar impersonated by the player– presupposes the existence of a fictional world in which the game takes place, such games as *Tetris* or *Pong* develop their space on a bi-dimensional plane that dismisses any intention of creating a fictional world and instead offers a perspective similar to that of of board games, complicating the notion of space in the perception of the player.

video games the expressive function of virtual environments has been growing exponentially, parallel to the technological development of the graphical hardware and reflecting the higher technical flexibility of the software.

Henry Jenkins and Michael Nitsche stress the "evocative" character of video game spaces, according to which the focal point of the game designing process is the level design: 'Game designers don't simply tell stories: they design worlds and sculpt spaces'.[210] This process is said to be the foundation of narrative strategies in video games:

> Environmental storytelling creates the preconditions for an immersive narrative experience in at least one of four ways: spatial stories can evoke pre-existing narrative association; they can provide a staging ground where narrative events are enacted; they may embed narrative information within the mise–en–scene; or they provide resources for emergent narrative.[211]

Not only does Jenkins posit the primary coordinates for video game discourses on the use of mise–en–scene but, in this passage, he also defines two functions of the virtual stage: the *embedded* narrative and the *emergent* narrative. An environment is considered to be charged with 'embedded narrative'[212] whenever the game structures the narrative experience for the player to traverse it, reconstructing its pieces through the interaction with the virtual environments: 'the game space becomes a memory palace, whose contents must be deciphered as the player tries to reconstruct the plot'.[213]

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[210] Henry Jenkins, op. cit., 2004, p. 121.

[211] Ibidem, p. 123.

[212] Ibidem, p. 121.

[213] Ibidem, p. 129.

In this sense, the embedded narrative is based on the capacity of the environments to contain and be inscribed with narration that can be triggered by the user. Most commercial video games nowadays follow this model, which is often enriched with the use of “scripts”. A script is a command that that can be temporally or spatially activated and that –like the indication given by a director on a set– dictates the actions of a character or the events occurring in an environment. This creates what can be described as a “scripted staging” situation, which allows the player to experience pre-established events to achieve emotional or spectacular impact. Scripted staging creates constraints on the freedom allowed to the player in order to make him/her experience the designed cinematic situation. King and Krzywinska comment on the useful implementation of constraints in order to deliver a “pleasurable” experience:

> Restriction should not be understood only in negative terms, however. It is also the basis for many key gameplay effects that result from channelling the player or player-character in particular directions. […] This is especially true of Juul’s ‘games of progression’, in which the player’s primary role is to realize a pre-existing structure of events. Limiting and directing the movement of the player-character is essential to the creation of pleasurable effects such as fear and suspense in horror-based games, for example, or creating a linear narrative framework of some kind within which gameplay activities are situated.[214]

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[214] Geoff King and Tanya Krzywinska, *Tomb Raiders and Space Invaders. Videogame Forms and Contexts*, London/New York: IB Tauris, 2006, p. 79.

[redacted]

Figure 1 - *Call of Duty 4: Modern Warfare*

The *Call of Duty* franchise, for example, gained success thanks to the scripted nature of the situations presented in each title, staging exquisitely cinematographic moments.[215] The opening mission of *Call of Duty 4: Modern Warfare*[216](Figure 1) marked a turning point in the history of the FPSs (First-Person Shooter) by re-enacting the assault on a terrorists' ship in the middle of a sea-storm.[217] The player is taken on a helicopter and follows the action in first person –here the interaction is limited to the orientation of the camera with no spatial movement allowed at this point. The squad climbs down a rope to reach the prow of the ship and finally the player is given full control of the player-character to join the action. The soldiers position themselves in formation and kill the crew inside the cabin. Nevertheless, all

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[215] Cf. Anthony Gallegos, 'Call of Duty: Black Ops 2 – A Bold New Future', in IGN.com (01/05/2012) retrived from http://uk.ign.com/articles/2012/05/02/call-of-duty-black-ops-2-a-bold-new-future (visited on 19/02/2013).

[216] *Call of Duty 4: Modern Warfare*, Infinity Ward, USA, 2007.

[217] The mission, called 'Crew Expandable', is the first of the game after the tutorial level. Later in the mission, a missile causes an explosion that leads the ship to eventually sink. During this section of the level, the scripted events develop an incredibly cinematic experience. Through a number of diegetic strategies –a closed door, a flooded corridor, the player is driven along a path, forced towards specific point**[s]** and places, sometimes he/she is even deprived of the control of the avatar –the explosion causes the character to faint and then be rescued by the leader of the team– allowing the designer to stage a perfectly cinematic action sequence, in which eventually the player and his/her teammates save the day and make it alive out of the sinking ship. Not only does the scripted nature of this section provide a highly cinematographic level of spectacle, but it also favours the implementation of proper cinematographic iconic moments. The sequence is flavoured throughout with tropes borrowed from action movies and war/military movies, building on a sense of comradeship and heroism.

the main events on the ship –that affect the progression in the narration– and the actions of the other squad members are predetermined by the designers through scripts, guaranteeing the spectacular and dramatic impact of the situation. Moreover, the scripted stage is used to contain the player activity in time and/or space, in order to keep him/her on track following a designed path. This technique allows for a compromise between the freedom given to the player and the control guaranteed to the narrative instance. The ultimate goal of the scripted staging techniques is to believably convey the illusion of free will while channelling the player's activity on a predetermined route.

> While following directional indicators along the relatively narrow corridor, players can agree to participate in the illusion that the surrounding environment is more navigable than is really the case; that the traversable route is part of a larger world of equally realized status. The moment the player departs from the designed path – where this is possible, especially in outdoor spaces without clearly motivated boundaries – the illusion can easily be broken.[218]

Typically, in these games environments are designed as systems of corridors that contain the exploration of the player, encouraging and eventually forcing him/her to follow waypoints and activate predetermined events. The structured nature of space and the predetermined character of the events are disguised by the staging techniques.

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[218] Geoff King and Tanya Krzywinska, op. cit., 2006, p. 88.

[redacted]

Figure 2 - from the *Uncharted* series

In the *Uncharted* series (see Figure 2), for example, the environments are constantly changing (a building on fire),[219] moving (a chase on and off a train rooftop)[220],

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[219] *Uncharted 3: Drake's Deception*, 'Chapter 7: Stay in the Light'.
[220] *Uncharted 2: Among Thieves*, 'Chapter 13: Locomotion'.

reshaped and modified (a collapsing building)[221] by events that encourage the player to follow the only possible path, the one designed by the authors. In all these cases, staging is used not only to provide spectacle, but it is instead functional to the creation of a believable path and contained environment. The dynamic character of the space is a feature commonly deployed in order to infuse the environment with a life-like impression, as well as to build a constant tension that does not allow the player to contemplate possible alternative paths during these sections.

The alternative to this paradigm is what Jenkins describes as 'emergent narratives'.[222] As opposed to scripted events, these are based on procedural routines that automatically generate events within the virtual environments. Procedural systems respond to a looser set of rules provided by the designer. The behaviour of the objects within the virtual environment is not pre-established, but is instead contextually generated by the rules that guide the reaction of all the elements in the simulation. Procedural systems are used for different tasks and to different degrees. They are computer run activities based on rules designed by the operator (for example the programmer) to make the machine respond dynamically to the input of the player. The machine elaborates a number of possible outcomes according to the rules, allowing the creation of a large amount of variable content regardless of the user's input. For this reason, up till the end of the 1980s, procedural systems were used to generate contents "on the fly" that did not need to be stored on physical supports, which had limited memory. Video games such as *The Sentinel*[223] and *Starflight*[224] used procedural systems to randomly generate spaces and levels that

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[221] *Uncharted 2: Among Thieves*, 'Chapter 6: Desperate Times'.
[222] Henry Jenkins, op. cit. 2004, p. 126.
[223] *The Sentinel*, Geoff Crammond, UK, 1986.
[224] *Starflight*, Binary Systems/Electronic Arts, USA, 1986.

could have not been stored in the physical data media available at that time.

[redacted]

Figure 3 - *Left for Dead 2*

A particularly interesting example of emergent narrative is provided by *Left 4 Dead*[225] and *Left 4 Dead 2*,[226] (Figure 3) which implement a procedural system called 'AI Director'[227] in order to deliver dramatic staging. In this case, the procedural system is used to enhance the dramatic impact through the disposition of items, characters and objects in the levels that actively reflect and respond to the player's actions. The AI Director reads the status of each member of the team, their health condition, ammunition and stocks, providing an adequate distribution of items in the environments in order to maintain a constant level of tension.[228] The AI can evaluate

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[225] *Left 4 Dead*, Turtle Rock Studios/Valve South, USA, 2008.

[226] Left 4 Dead 2, Valve Corporation, USA, 2009.

[227] *Left for Dead* is a survival-horror FPS developed especially for the multiplayer experience. The game portrays the story of 4 survivors in the US in a zombie-apocalypse scenario. The game can be played either on-line, with the team-mates being acted by other human players, or off-line, in which case the other support characters are driven by the computer AI. The concept behind the game is that of an emotional experience provided by the interaction among the players and the dynamic reaction of the AI Director, which challenges the team by forcing it to cooperate in order to accomplish the mission. The parallel with the cinematic stage is evident also from the name assigned to this system that evokes the figure of the cinematic director. This process is defined by the developers as 'procedural narrative' for its ability to control and pace the events –from the spawning position of the enemies to the weather conditions and the levels structure– taking into account the response of the players to each situation and adapting to it. Cf. Gabe Newell, 'Gabe Newell Writes for Edge' in *Edge* (28 December 2008). Retrieved from http://www.edge-online.com/features/gabe-newell-writes-edge/ (visited 28/05/2013).

[228] Generally in video games the behaviour of the AI is driven by the difficulty settings, which can be initially chosen by the player establishing the difficulty level at the beginning of each game. In *Left 4 Dead* the AI Director dynamically changes its behaviour in relation to the players' status,

the condition of the team and it can also assess the level of cooperation between the players, encouraging teamwork by providing rewards such as extra items. Not only is the AI in charge of managing the distribution (spawning) of the enemies within the environment, often introducing stronger threats according to the statistics of the players, but it can also determine the weather –increasing the dramatic character of each situation–, the structure of the levels –affecting the maze-like configuration of some areas in order to challenge the survivors– and even modulate the sound-score – to the point of underlining moments of tension specific for each player. These elements have major consequences for the player's experience. On the one hand, the game is capable of adapting the level of difficulty in accordance with feedback from the player. On the other hand, this allows for a dynamic experience that changes each time, increasing the re-playability of the game.

Other procedural systems, such as the Havok engine, are used in order to realistically simulate physics in the virtual environment. Havok is a licensed physics engine used to simulate the behaviour of objects in relation to variables such as gravity and collisions. This engine was firstly experimented in commercial titles such as *Half Life 2* and it is nowadays adopted by a vast number of games such as *Assassin's Creed*, *Uncharted 2* and *Uncharted 3*, *Bioshock*, *Halo 3* etc.[229] The implementation

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while the difficulty settings are used to establish the overall parameters of each match as, for example, the presence of friendly fire (the damage caused by team-mates' weapons).

[229] With regards to the question of technological determinism and the influence of technological evolution over the quality of the representation, cases such as *Thief* (Looking Glass Studios, 1998, USA) and *Jurassic Park: Trespasser* (DreamWorks Interactive, 1998, USA) are of particular interest as they were among the first games to experiment with physics simulations. In fact, *Thief* simulates the behaviour of the objects within the environment and the player's interaction with them, prominently featuring this aspect in the gameplay. These elements are motivated on a narrative level by the characteristics of the player-character, Garret, by his background as thief operating in an alternative universe of the industrialised middle age. The character's specificity justifies a gameplay style called stealth –which gives the name to the genre– that requires the player to sneak across the levels in order to collect objects and reach secured areas. Thus, the technological development allowed the designers to create a more interactive environment, compared to those of other productions from the same period such has *Unreal* (Epic Games, 1998,

of physics systems increased during the 7th console generation, expanding the situational realism achievable in video games and consequently highlighting the importance of staging techniques. Other engines are calibrated to calculate the animation of the characters and of the objects within the environment. Euphoria, for example, is now a standard instrument for procedural generated animations and it is used by games such as *Grand Theft Auto IV*, *Red Dead Redemption*[230] and *Max Payne 3*.[231] Contrary to physics engines, animation engines generally do not substantially affect the gameplay, but rather enrich the quality of the staging by enhancing its level of "realism" and the amount of interaction available. Once again, technological discourses are connected to issues of realism and spectacle. In this case

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USA), *Half Life* (Valve Software, 1998, USA) and *Metal Gear Solid* (Konami, 1998, Japan) based on similar gameplay mechanics. In this sense, the mise-en-scene becomes even more relevant in defining the character of the game. In fact, not only does the interaction with objects become a fundamental aspect of the gameplay, but it also allows the development of dynamic events. For example, the player is given the possibility to throw objects collected from the environment in order to make noise and attract enemies away from their location. *Trespasser* is another example of early experimentation with physics engines, which illustrates the other side of the spectrum and the possibility of the technological novelty to decrease the level of realism. The game features an advanced physics system, which not only governed the physics of small objects relevant to the gameplay –as in *Thief* and *Half Life*– but allowed the player to interact with almost any object in the virtual environment, including vehicles and small buildings. Once again, the narrative setting of the game suits the technological showcase, putting the player against large creatures such as dinosaurs, with limited resources that require using objects randomly placed in the environment, such as bricks and sticks. The novelty of technology emerges through the relative absence of constraints imposed by the mise-en-scene, not only the one disposition of the objects in the environment but also the position of the camera in it and in relation to the player-character. The game originally did not display any additional HUD, but instead provided information on the avatar status using a tattoo in the shape of a heart marked on the protagonist's arm. Moreover, the arm of the protagonist is the main instrument of interaction with the world, allowing the player to pick up most of the objects and to use them as weapons, also twisting and rotating them, affecting their physical characteristics and allowing a deep interaction with the props and objects offered in the mise-en-scene. Nevertheless, the technological innovation offered by *Trespasser* represents also its major fault, causing the game to be harshly criticised by players and by the specialised press. The game's technical requirements were beyond the calculus power of the average machines of the time and the complex physic**[s]** system translated into a non-intuitive and ultimately non user-friendly interface. The same development team acknowledged that one of the main problems of the game 'was being crafted as a primarily engineering-driven rather than design-driven process', concluding that 'Computer games are one of the most difficult project management tasks possible, consisting as they do of a careful balance between art and engineering, between the desire to innovate and the need to deliver a product in some sort of timely fashion' Cf. Richard Wyckoff, 'Postmortem: Dreamworks Interactive Trespasser', in *Gamasutra* (14 May, 1999). Retrieved from http://www.gamasutra.com/view/feature/131746/postmortem_dreamworks_.php?page=3 (visited 02/05/2013).

[230] *Red Dead Redemption*, Rockstar San Diego, 2010, USA.

[231] *Max Payne 3*, Rockstar Vancouver, 2012, Canada.

the simulation of bodies' behaviour in the virtual space generates a spectacle derived from the player's awe at the representative capability of the machine.[232] At the same time, the implementation of physics engines in contemporary productions generates the proliferation of micro-procedural narratives that allow the player to experiment with the game environment creating events resulting from the procedurally calculated effects of the player's action in the game world.

Wolf anticipates Jenkins and Nitsche in discussing video game spaces in relation to the concept of on- and off-screen space. This work is particularly relevant in order to analyse framing in video games, as the analysis offered by the author on video game spaces is dependent on the viewpoint from which the space is framed.[233] Wolf defined a number of spatial typologies that classify video game spaces on a diachronic level, tracing a history of video games up till 1997. This model is still useful today, as many productions still reflect the characteristics individuated by Wolf, albeit showing a tendency towards the hybridisation of multiple spatial types. At one end of this model Wolf places the 'no visual space' typology, including 'completely text-based'[234] proto-games such as *Zork*, similar to cyber-texts and hypertexts due to the non-visual nature of their representation. Here space, deprived of the iconic level of signification, is abstract and symbolically evoked by textual

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[232] There are a large number of users' videos available on the internet and dedicated to the depiction of more or less deviant behaviours of the game engine in particular contexts. See for example, Wes Hapson, 'Grand Theft Auto IV Funny Euphoria Moments', in *Youtube* (31/10/2009) http://www.youtube.com/watch?v=3-CX2MXSfsU (visited 31/10/2009).

[233] Wolf's work points at the importance of the influence between cinema and video games. Nevertheless this influence developed in a different way from the one foreseen by the author. In 1997 Wolf stated that 'video games are themselves becoming more like film and television, embedding video clips within the games, or like *Dragon's Lair* (1983), *Space Ace* (1983), *Dragon's Liar II* (1992), relying on video sequences almost entirely' (p. 11). Nevertheless, although the cinematic quality of video games grew stronger, this relationship developed in a different way, involving the role of the player as protagonist of the performance and putting him/her at in charge of the cinematic instance through camera controls. Cf. Mark J. P. Wolf, op. cit., 1997, p. 11.

[234] Mark J. P. Wolf, op. cit., 1997, p. 13.

cues. Textual representation and interaction is still used in some games in order to compensate for the constraints of the machines or as a rhetorical tool. Text is used for dialogues, and verbal interaction with the NPCs but also to provide narrative background especially in role-playing games (RPGs), which need context and information in order to convey a sense of world-ness. In *Mass Effect* for example, the background of the player-character can be chosen via textual interfaces that provide a story for the characters and their narrative motivations, creating an abstract space (and time) that expands beyond the game itself. Textual information (diaries, logs, notes, posters, radio, television etc.) are used in tridimensional games to provide references and context within the diegetic world. While in *Grand Theft Auto IV* and *Grand Theft Auto V*[235] radio stations provide an account of the world around the characters, criticising society (in the game and outside) with irony almost blaming on it the violence portrayed in these games, in *The Last of Us*[236] the fall of society – which takes place 10 years before the game's main events– is readable on the walls of the deserted environments, used to tell the stories of the dead corpses that populate the rooms and the streets of the levels. Through these elements, a different space (or more accurately a space from a different time) is recalled in order to expand the experience offered to the player through gameplay.

The 'one screen contained'[237] (*Pong*,[238] *Space Invaders*[239]), and the 'one screen, contained, with wraparound'[240] typologies of spaces are entirely visualised within the

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[235] *Grand Theft Auto V*, Rockstar/Rockstar North, 2013, UK/USA.
[236] *The Last of Us*, Naughty Dog, 2013, USA.
[237] Mark J. P. Wolf, op. cit., 1997, p. 14.
[238] *Pong*, Atari, France, 1972
[239] *Space Invaders*, Taito, Japan, 1978
[240] Mark J. P. Wolf, op. cit., 1997, p. 14.

frame, with the addition of the impossible 'self-enclosed space'[241] (*Asteroids*[242]) in the latter. This concept has been recently refashioned in games such as *Portal*[243] that use physics in order to create environmental puzzles often solved through wraparound spatial dynamics that are narrativised by the sci-fi setting of the game.[244] The 'scrolling on one axis space' describes games in which 'Spatial scrolling can occur horizontally, as it does in games like *Defender*, *Stampede*, *Space Jockey* (1982), and others, or vertically as in *Skiing* and *Street Racer*'.[245] The 'scrolling on two axes'[246] space describes the movement of the frame on a plane, often employed in games that require a strategic and comprehensive view of the virtual environments (*Sid Meier's Civilizaiton*[247] and *Sim City*[248]). The camera in these games can freely move on a plane not allowing for movement in depth, keeping a constant distance between the camera and the framed object. 'Adjacent spaces displayed one at a time',[249] used in games such as *Adventure*,[250] introduced crosscutting techniques in video games, generating in the player the awareness of an off-screen space. This typology acknowledges a deeper influence of cinematic language 'not only following the precedent set by film but [also] relying on it to allow the player to make sense of the geography of the game'.[251] Interestingly, this typology recalls a theatrical rather than cinematic paradigm, especially considering their structure is based on the creation of a proscenium that makes space frontal and flat, positioning the viewpoint of the player outside of it and generating a theatrical foorth wall. This spatial design

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[241] Ibidem, p. 14.

[242] *Asteroids*, Atari, France, 1979.

[243] *Portal*, Valve, USA, 2007.

[244] In *Portal* the player is provided with a gun capable of creating worm-wholes with an entry and an exit point that allow for the solution of environmental puzzles.

[245] Mark J. P. Wolf, op. cit., 1997, p. 15.

[246] Ibidem, p. 15.

[247] *Sid Meier's Civilizaiton*, MicroProse, USA, 1991.

[248] *Sim City*, Maxis, USA, 1989.

[249] Mark J. P. Wolf, op. cit., 1997, p. 16.

[250] *Adventure*, Atari, USA, 1979.

[251] Mark J. P. Wolf, op. cit., 1997, p. 16.

was largely adopted in the adventure genre, due to its being based on puzzles and on the interaction with environment, with little focus on spatial traversing mechanics.[252] In fact, the environment in which the characters of adventure games generally move is similar to a theatre stage, providing a space similar to the one found at the cinema before Griffith's scene-dissection techniques. The flat character of these spaces is determined by their bidimensional strategies of representation –a static viewpoint and the lack of spatial depth that places the player outside the represented space, generating a theatrical fourth wall – that characterized this genre even after the three-dimensional turn occurred in the middle of the 1990s'[253], as exemplified in *The Secret of Monkey Island*[254], *Broken Sword: The Shadow of the Templars*[255], *Blade*

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[252] The adventure genre is one of the most complex to define as a consequence of its hybrid nature. Despite being almost completely dismissed nowadays, its characteristics have been variously inherited in other genres. According to the description provided by Wolf, the genre's roots are retrievable in the early years of video games, with the text-based games that rapidly developed graphically, orienting the gameplay from narration to action, leading to new graphical regimes of representation. According to Wolf 'From the late 1970s and throughout the 1980s, adventure games generally fell into two camps: graphical adventure games and text adventure games' (p. 83), thus the technological innovation brought to differentiation of their characteristics according to the different development platforms (computers, the rising home video game systems etc.). Technological innovation was fundamental for the development of another characteristic of adventure games: the possibility of freely pointing and clicking on the screen through a mouse. Eventually this innovation led to the development of games such as *Myst* (Cyan Worlds, USA 1993) –possibly the most representative of the genre– which would 'eliminate almost all nondiegetic informational graphics, containing all its player interaction within the image' (p. 88). Essential to this genre are the exploration of the environments, the immediacy of the interface that slowly fades into the diegesis and the puzzle mechanics that put together the environments and the player's action. Finally Wolf proceeds to trace the evolution of the genre up till titles such as *Tomb Raider* and *Grand Theft Auto* (DMA Design Limited, UK, 1996), which both clearly acquire characteristics from the adventure games but exceed this label by placing the focus on such elements as action and traversal mechanics. In fact, although they still present the environmental exploration as a main trait, this element is inflected focusing on the movement through the environment rather than on the interaction with it. It is, in fact, the interaction with the environment and with other characters one of the distinctive traits of the genre. Cf. Mark J. P. Wolf, 'Genre profile: Adventure Games', in Mark J. P. Wolf (ed.), *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut: Greenwood Press, 2008b, [pp. 81–90)].

[253] The peak of this turn is generally individuated with the release of *Quake* (Id Software, USA, 1996), featuring a fully polygonal engine that contrary to previous Id Software titles included also a three-dimensional representation of the characters, along with the 'Arcade games and homes consoles, too, had hardwired 3-D capabilities, and many genres began their transition to the third dimension' Cf. Carl Therrien, 'Graphics in Video Games', in Mark P. Wolf (ed.), *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut: Greenwood Press, 2008, [pp. 239–50] p. 248.

[254] *The Secret of Monkey Island*, LucasArts, USA, 1990.

[255] *Broken Sword: The Shadow of the Templars*, Revolution Software, UK, 1996.

Runner[256], *Hollywood Monsters*[257]. Interestingly, the production of titles belonging to this genre declined during the 7th console generation. The inability of the genre to meet, exploit and showcase the technical capacity of the machines, possibly combined with the rising success of action adventure[258] games, led to the abandonment of the genre, which is now undergoing a moment of transition and experimentation with some projects such as *Heavy Rain* and *Beyond: Two Souls*[259] – both developed by Quantic Dream– and some indie games such as *Penumbra: Overture*[260] and *Dear Esther*.[261]

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[256] *Blade Runner*, Westwood Studios, USA, 1997.

[257] *Hollywood Monsters*, Pendulo Studio, Spain, 1997.

[258] This label is often used to define games such as *Tomb Raider* and, more recently, *Uncharted*, which inherited some of the characteristics of the adventure games as for example the focus on the exploration, but with emphasis on the traversal mechanics rather than on the interaction with the environment.

[259] *Beyond: Two Souls*, Quantic Dream, 2013, France.

[260] *Penumbra: Overture*, Frictional Games, Sweden, 2007.

[261] *Dear Esther*, The Chinese Room, 2012, UK.

[redacted]

Figure 4 - *Heavy Rain*

Heavy Rain (Figure 4) displays some core elements inherited from the adventure genre, especially in its focus on environmental observation –mediated by predetermined viewpoints through which the virtual camera generally frames the characters in a long or medium shot– and an interface specifically designed for contextual interaction with the environment, rather than to provide direct control over the player-character's actions. This control system is heavily based on Quick-Time Events (QTE), for which scripted sequences are timely or spatially activated while the player is required to press specific buttons in sequence when the corresponded icons are displayed on screen. *Heavy Rain* presents a hybrid formula that provides the highest level of organisation in terms of mise-en-scene leading to a sense of cinematic efficiency both in terms of shooting and editing. By accurately script-staging each possible action of the game the player's interaction with the stage is maximised. Here the interaction available changes for each area and is notified to the player via pop-up icons that show the actions available in each point of the environment, many of which are used in order to build an emotional connection to the characters. The player is at times asked to perform mundane activities contextually available in proximity of the objects. In this sense, the space is used to provide a deeper experience of the characters' lives, affecting –once again through scripted staging– the perception of time and the pace of the narration. This control system combined with detailed environments allow the player to densely inhabit the game spaces, in contrast with games based on a traversal dynamic that requires the player to run through the environments. The characters can wash their hands, brush their teeth, play with toys and even stare at the window contemplating the restless rain that permeates the game, shaping its mood with a metaphor for the gloomy lives of the characters.

On the other hand, the indie game *Dear Esther* also offers an experience focused on environmental exploration, but in this case the player can freely move framing the environment in first-person, wandering around a virtual island as the fragmented story unwraps through voiceovers activated whenever the player-character reaches specific areas of the island. The focus here is placed on exploration, through which the player can access the memories of Esther, presumably the dead wife of the player-character. Thus, in this game off-screen space is essential, as it is constantly evoked by the voiceovers' memories of Esther, while the on-screen space represents the bare remains of the main (off-screen) narration, a memory palace through which the voiceovers are triggered. Finally, *Penumbra: Overture* delivers a hybridization of the adventure genre with survival horror. In this title the interaction with the environment and the puzzle-solving mechanics are still prominent, but the first-person point of view allows for a dynamic exploration of the environment that is populated with threats and enemies. Here the on-screen space is the centre of the player's interaction due to the puzzles that require both exploration (finding keys, opening doors) and manipulation (the game features a physical engine that allows for a realistic interaction with objects such as wheels, switches and levers) of the environment. At the same time, off-screen space acquires importance due to the player's constant awareness of the threats lurking in the dark. The survival horror character of the game, with its characteristic lack of resources (such as weapons, med kits etc.), generates in the player a state of constant tension provoked by unknown threats, evoked by the active role of off-screen space.

More complex is the case of the 'layers of interdependently moving space planes'[262] that display 'overlapping and interdependently moving planes of graphics'.[263] These representational strategies can be used in two different ways: as aesthetic tools –with the creation of an interactive foreground and a moving background– or as integral part of the gameplay –allowing for the player to jump across the two layers.[264] Also in this case, the concept has been refashioned in three-dimensions by games such as *Paper Mario*, in which the "layered" space requires the player to intentionally switch from one plane to the other, generating gameplay dynamics that challenge the player

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[262] Mark J. P. Wolf, op. cit., 1997, p. 17.

[263] Ibidem, p. 17.

[264] Wolf defines as z-axis the process of tracing 'the trajectory to and from the viewer, [who] is not physically present in a two-dimensional plane Cf. Mark J. P. Wolf, 'Z-axis Developent in the Video Game', in Bernard Perron and Mark J. P. Wolf (ed.) *The Video Game Theory Reader 2*, New York: Routledge, 2009, [pp. 151–168] p. 157.

through the complex geography of the environment. Here, the first layer is the bi-dimensional one in which the environment is portrayed on two-axes, while the second layer allows for the character to access the third dimension with a third-person dynamic viewpoint that allows it to reach points previously inaccessible in the flat bi-dimensional perspective. Also in this case, the spatial transition is themed ironically and narratively, as the game depicts the action of "Paper" Mario, a flat and paper version of Nintendo's star.[265]

The 'Spaces allowing z-axis movement out of frame'[266] are the intermediate step towards a three-dimensional representation of space. Here the graphic space is still flat and the sense of depth is an illusion suggested via perspective, as the elements on screen grow bigger the closer they get to the camera and disappear off-screen when going behind the camera. Contrary to three-dimensional environments, here the conception of space is linear and frontal. The linear progression through the virtual space meets once again a conceptual translation in certain contemporary productions such as the rail shooter games, in which 'the player-character is carried through the game world like on a theme park ride, as if on rails'.[267] In games such as *Time Crisis 4*[268] and *The House of the Dead: Overkill*[269] space is represented in three dimensions (deploying polygonal graphics), often showcasing a higher level of detail compared to productions from the same time. Nevertheless, the three-dimensional representation of the environment is not conceptually translated in terms of affordability for the player. The game develops through linear progression leaving

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[265] Also in this case, the operation assumes a retro-feel provided by the iconographic history of this character that attained the third dimension only in 1996 with *Super Mario 64*.

[266] Mark J. P. Wolf, op. cit., 1997, p. 18.

[267] Geoff King and Tanya Krzywinska, *Tomb Raiders and Space Invaders. Videogame Forms and Contexts*, London/New York: IB Tauris, 2006, pp. 77–78.

[268] *Time Crisis 4*, Next Entertainment, 2007, Japan.

[269] *The House of the Dead: Overkill*, Headstrong Games, 2009, UK.

the user with little to no control on the direction taken by the player-character. In this sense, also here the three-dimensional graphics only suggests the illusion of a space that can be explored. The only activity available for the player is to shoot at the flat screen, whose sense of depth is simulated by the staging of characters and objects organised through perspective. The fact that the player is unable to move through the environment hence nullifies the possibility of a three-dimensional interaction, instead replaced by aiming at the flat screen surface.

The 'Multiple nonadjacent spaces displayed on-screen simultaneously'[270] were most notably used in previous generations to allow multiple players to simultaneously play on the same device, taking part in the same game within a split-screen. *Golden Eye 007*[271] became famous due to the successful use of this feature that allowed up to four players to compete against each other using multiple controllers each associated to a portion of the screen. The spatial plurality here has consequences on the gameplay, allowing the players to 'monitor each other's progress'.[272] Due to technological limits in terms of broadband availability and bandwidth in many countries, this technique partially survived during the 7th console generation, being successfully implemented in titles such as *Gears of War*[273] and *Call of Duty 4: Modern Warfare*.

The last typology described by Wolf is that of 'Represented or mapped spaces'[274] that are used in order to portray large portions of space in a simple and iconic way, functional to the player's orientation and action. Here the space is flat and highly

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[270] Mark J. P. Wolf, op. cit. 1997, p. 18.
[271] *Golden Eye 007*, Rare, 1997, UK.
[272] Mark J. P. Wolf, op. cit., 1997, p. 18.
[273] *Gears of War*, Epic Games, 2006, USA.
[274] Mark J. P. Wolf, op. cit., 1997, p. 21.

stylised, and few details are used in order to convey relevant information about the environment. Today, this spatial form is present in most of the titles that include environmental traversal mechanics. From *Resident Evil 5*[275] to *Need for Speed Most Wanted*,[276] including *Far Cry 2*, *World of Warcraft*,[277] *Mass Effect* and *Grand Theft Auto IV*, these games always include a simplified and extradiegetic representation of their environments within the interface menus or as part of the HUD. Nowadays, many titles attempt to absorb these features within the diegetic environment, creating a sub-spatial representation that can coexist with the main one. In *Dead Space*, the map (as well as the inventory of the items) is available in the form of a hologram that is projected from the player-character's gear, making this operation seamless and consistent with the sci-fi setting of the game, without interrupting its flow. In *Far Cry 2*, most vehicles are provided with GPS devices that indicate on a screen the direction to the next goal without requiring the player to pause the game screen in order to check the map.

The spatial typologies described by Wolf account for the historical development of ideas and conceptions of space in video games up till 1997. Still today, they prove useful to map the history of game space but also in order to retrieve archetypal models often concealed through graphical embellishment that often leave unchanged the interaction available to the player. Nevertheless, the most relevant category deployed in contemporary titles is that of the 'interactive three-dimensional environment'[278] that is at the foundation of the spatial conception in the majority of cinematic games. Here the spatial representation is fully three-dimensional, not

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[275] *Resident Evil 5*, Capcom, 2009, Japan.

[276] *Need for Speed: Most Wanted*, Criterion Games, 2012, Canada.

[277] *World of Warcraft*, Blizzard Entertainment, 2004, USA

[278] Mark J. P. Wolf, op. cit., 1997, p. 20.

always supported by adequate mechanics, and often affected by constraints of different kind from those individuated by Wolf. As noted by Geoff King and Tanya Krzywinska:

> Greater scope for exploration is usually associated with games that produce more detailed three-dimensional worlds through which the player-character moves, although the principal gameplay task of many 3D games are such as not to encourage a design that affords great scope for exploration.[279]

In fact, most 3D environments are still extremely contained in games from the 7th generation. The corridor-based structure of many FPS and TPS (Third-person shooter), games such as *Call of Duty 4: Modern Warfare*, is an example of the constraints imposed on exploration by the environment. In these games, the environments are often graphically rich but constant linear progression is imposed through time-based activities and spatially triggered events requiring the player to move forward in order to "progress" in the game. Again, King and Krzywinska describe limits to explorations in terms of 'soft' and 'hard' boundaries in order to discern those restrictions that are functional to the game requiring the player surpass them and those that depend on the limits of the design or of the machines:

> Limits to exploration can be characterized as 'hard' boundaries, absolute restrictions in the gameplaying arena, and 'soft' boundaries that act as temporary barriers but can be traversed under certain conditions (a key needed to open a door, for example; hard boundaries can also be rendered soft in special circumstances such as the use of 'no-clip' cheats codes to

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[279] Geoff King and Tanya Krzywinska, op. cit., 2006, p. 77.

> enable the player-character to traverse otherwise solidly rendered structures). Soft boundaries, a product of obstacles set for the player, are usually given justification through the fictional-world activities in which the player-character is involved. Hard boundaries are also given plausible motivation, as far as possible, to avoid the impressions of arbitrariness that are likely to reduce the immersive qualities of a game.[280]

Nevertheless, restrictions often do not lie only in the dimensions of the environments but also in their organisation. Games such as *Far Cry 2*, *Grand Theft Auto IV*, *Red Dead Redemption* and *World of Warcraft* offer vast explorable areas, but that does not always encourage exploration or engagement with them. *Grand Theft Auto IV*, for example, provides the player with a whole city that can be explored and traversed using multiple vehicles, both on earth, water and air. Whilst the environment and the amount of detail of the streets of Liberty City are impressive, nevertheless the majority of the buildings are closed or not accessible, limiting the number of activities available and undermining the life-like character of the environment. Most of the time, for example, game design encourages horizontal gameplay, aligning the z-axis with the ground and channelling the activity of the player in that direction. Vertical exploration is rarely implemented in games as a consequence of the strong limitations imposed on the level design and on the complexity of the environments by the machines. This restriction is highlighted by the novel gameplay of certain recent titles such as *Dark Void*[281], *Just Cause 2*[282] and *Assassin's Creed 2* in which verticality is a fundamental part of the level design, allowing the player to orient the

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[280] Ibidem, p. 82.
[281] *Dark Void*, Airtight Games, 2010, USA.
[282] *Just Cause 2*, Avalanche Studios, 2010, Sweden/USA.

z-axis both horizontally and vertically, depending on the situation. This aspect is foregrounded also in *Uncharted* 3 through the presence of vertical gameplay sections that are highlighted by contrast with the rest of the game, traditionally developed through the horizontal paradigm.[283] Here the vertical sections are always predetermined, offered by the environment to the player only at specific points and at specific times, in accordance with the completely linear structure of the game. In both *Dark Void* and *Uncharted 3* the shift to vertical sections is signalled to the player via camera movements that literally "reframe" the relation between the player-characters and the environment turning walls into ground through the use of camera angles.

As seen in this brief and partial investigation of game space, the freedom of the fully simulated space is still an illusion achieved with different techniques and structures. Most games still impose heavy limitations upon the degree of freedom granted to the player in exploring the virtual environment. As described by Jenkins regarding narrative games, there are mainly two contrasting conceptions at play: the embedded and the emergent narrative. The first technique is used by cinematic games in order to structure an experience inscribed in the space, that shapes it similarly to the way a building suggests a path (and a mode of fruition) to its visitor. This architecture is nonetheless constructed through characters, props, and events that closely recall those deployed in movies. While it may appear as if emergent structures get rid of the *hubris* of the author leaving the players free to build their own experience, grand-spaces often "suggest" modes of exploration due to the limitation of the machines

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[283] The vertical game design is so uncommon to be used, at times, also in advertising materials as special feature of a certain title, highlighting the exceptional character of this element. See for example the video 'Just Cause 2's Vertical gameplay explained', in *Eurogamer.net* (14 September 2009) Retrieved from http://www.eurogamer.net/videos/just-cause-2s-vertical-gameplay-explained (accessed on 13/10/2013).

that do not allow designers to put enough detail in each area. Although the sense of freedom experienced playing one of the recent titles from the *Grand Theft Auto* series is undeniable, ultimately their scope is reduced by the organisation of the environments that feel empty and redundant, forcing the player to be constantly "on the move" in order to appreciate the nature of these spaces. Moreover, the experience of the sandbox games (a game genre that often deploys emergent models of narration) is generally less "open" and "free" than it seems. In these games, the cinematic appeal of space is often found at the conjunction with the dimension of time. As explained in the chapter on temporality in Section 2, through time the game alternates the mechanics between emergent and embedded, creating sub-articulations of the sandbox experience that are extremely structured. In fact, through time triggers, scripted staging becomes a fundamental element in providing these vast environments with life. Finally as highlighted by Wolf, the mediation of the frame, as a technique but also as ideological dispositive, shapes the experience of space in ways that are often connected to those of cinema, as evinced by the taxonomy, game modes and practices established through the mediation of the camera.[284]

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[284] The relevance of cameras in shaping a cinematic experience is the main topic of Chapter 5.

Chapter 3 – Functional décor: expressive lighting and colour

> I realized that photographic technique was going to determine the destiny of cinema. Light and darkness in the cinema play the same role as rhythm and cadence in music.[285]

Some of the most relevant technological developments in video games involve improvements in lighting and rendering techniques, allowing for a greater control over the illumination of the environments and of the characters that enhances their expressive quality. These techniques aim to add *décor*, to set moods and tones with colour palettes, shadows and shades. Throughout the history of video games, discourses of lighting –often tied to the elemental sources that generate and/or affect them such as fire, water, wind, smoke, sand, clouds– are prominent not only among the specialised press (reviews, previews and articles highlight with anticipation the development of these techniques) but they are also made core elements of marketing strategies in trailers and developer diaries. Once again, a fixation with realistic representation, with its intrinsic spectacle and technological awe, is connected to nature and its most basic elements, capable of making the virtual world more believable.[286]

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[285] Lotte H. Eisner, *The Haunted Screen: Expressionism in the German Cinema and the Influence of Max Reinhardt*, Berkeley: University of California Press, 2008 [1952, 1965], p. 40.

[286] Recently, the major companies involved in the production of graphic engines –which are sold as tools for game development to other companies in the industry– showcased the new generation of engines that will run on the next consoles (PlayStation 4 and the Xbox One and PC) over the following years. The main companies in these field are Crytek –with the Crytek Engine that runs on the titles of the *Crysis* series– and Epic Games –with the Unreal Engine, initially implemented in the *Unreal* franchise and, more recently, migrated to the *Gears of War* one. Not only are these some of the most spectacular and anticipated video games in terms of graphics and technical development, but they also (and most importantly) represent a showcase for the technical capability of their engines, determining their success in the video game development market. In fact, these engines are often sold to other companies, allowing investing resources on the creative development of the titles rather than on the technical side. The new version**[s]** of the engines are generally presented via non-interactive demo in the occasion of the most important video game events that take place each year, mainly the E3 (Electronic Entertainment Expo) in May, the TGS (Tokyo Game Show) in September and the GDC (Game Developer Conference) in March. Cf. Casey Lynch, 'Epic's Unreal Engine 4 "Elemental" Demo Lights Up the Uncanny Valley', in

Nevertheless, lighting techniques provide more than spectacle and their technical development has also facilitated new functionalities both on an aesthetic and on a gameplay level. These two aspects are not exclusive and coexist in the same product. For example, in *Tomb Raider*[287] –the latest instalment in Lara Croft's saga that aims to reboot the series deepening its narrative impact– lighting techniques are used as expressive tools to reflect the emotions and the distress of the heroine through the dramatization of the environment. Although the mise-en-scene deploys a photorealistic style, lighting tools are used in an expressionistic way, wherein the atmosphere of the environment reflects the emotions of the character. At the same time, through the use of visual cues such as cones of light and auras that indicate the position of objects, enemies and locations, lighting becomes a functional and integral part of the gameplay and participates in defining the "survival" character of the title. Lighting and colour provide examples of the importance of cinematic discourses and tools of analysis applied to video games. According to Simon Niedenthal '[...] color choices in 3D games can be discussed with reference to cinematographic functions, such as creating depth, conveying time of day and season, enhancing mood, atmosphere, and drama, and revealing character personality'.[288] Not only do they prove fundamental on an interpretative level in order to fully understand the narrative and emotional scope of games, but also in a configurative perspective they are primary elements of the gameplay mechanics, often overlooked due to their superfluous "decorative" status. Hence, this chapter highlights the difficulty of discerning between what is "functional" and what is "aesthetic", problematizing the

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IGN.com (June 8, 2012). Retrieved from http://uk.ign.com/articles/2012/06/08/epics-unreal-engine-4-elemental-demo-lights-up-the-uncanny-valley (visited 20/02/2012). See also 'Cryengine 3 SDK Update 3.4 Trailer', in *IGN* (16 April, 2012). Retrieved from http://uk.ign.com/videos/2012/04/16/cryengine-3-sdk-update-34-trailer (visited 20/02/2012).

[287] *Tomb Raider*, Crystal Dynamics, 2013, USA.

[288] Simon Niedenthal, 'Color', in Mark J. P. Wolf and Bernard Perron (eds.), *The Routledge Companion to Video Game Studies* (New York: Routledge, 2014), [pp. 67–73] p. 69.

boundaries between the two labels. In this sense, lighting and colour are analysed, through the filters of cinematic discourses as functional tools of expression. In accordance with this approach, Vincent Mauger problematizes the functionality of interfaces in relation to graphics and other apparently marginal elements that are often fundamental for the efficient interaction of the player:

> Lacking hindsight, it is common throughout the game industry to view the interface as detached from the game's graphics, bounded with clear beginning and end. This makes the defining of the task easier and the direct application of traditional interface design concepts possible. However, these practices may hinder innovation and experimentation with dynamic game interface elements that enhance gameplay experience, as interface designers are lured into the false security of customary static or passive constituents, such as visual frame or timer, life bar, and ammunition count. […] The more relevant aspect of game interface design is its *functionality*: "that form ever follows function. *This is the law*" (Sullivan, 1896, p. 5), claimed the Modernist architects; though the main purpose of a game interface is always to allow players to interact with the game software. As many counter-examples demonstrate, a poor interface may ruin a video game experience. However, an aesthetic and easy-to-use game interface with a neat visual design can significantly enhance play experience. As for screen design, the organization of information and interactive elements on screen-based interfaces, animation, and motion design are also some of the interface designer's greatest assets, which aid in the addressing of standard graphic design concerns such as composition, page layout, color usage, and the creation and use of typography and

icons.[289]

Lighting is a key aspect of cinematic language not only due to its ability of 'making things visible',[290] but also for its quality of establishing relations between the elements in the frame. Lighting allows the development of relationships between elements within and outside the frame, through space and time, characterising them with specific colours, tones and shades, capable of conveying emotions and establishing the mood of a shot, a scene and, occasionally, of an entire film.

On an ontological level, video game lighting is diametrically opposed to film lighting. While at the cinema light not only fills the profilmic space but also constitutes the means through which the image is impressed on the film, in the virtual environment light is absent, added by the programmer and simulated by the machine through technical tricks that emulate its existence in the digital environment via colours and textures, in order to spare calculus power. Yet, most of the functions of cinematic lighting are replicated in video games and, their analysis provides a better understanding of the interplay between gameplay and aesthetics. Using film theory insights, lighting reveals itself as more than a mere source of visual pleasure, it becomes a functional part of the game supporting and enhancing the gameplay mechanics. A parallel between the functions of lighting as described by Gerald Millerson, in his the seminal technical work on cinematic lighting, and lighting in video games, reveals the comparable expressivity of this tool and its functionality within the ludic experience. In the following examples Millerson's theoretical model

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[289] Vincent Mauger, 'Interface', in Mark J. P. Wolf and Bernard Perron (eds.), *The Routledge Companion to Video Game Studies* (New York: Routledge, 2014), [pp. 32–40] pp. 32–33.

[290] Gerald Millerson, *The Technique of Lighting for Television and Film* (third edition) Oxford: Focal Press, [1972] 1991, p. 16.

of lighting developed for films is directly applied to video games:

- 'light can reveal form, texture, detail':[291] light, in video games, is often "inscribed" in the textures, thus it is used in order to highlight elements and make them visible or relevant against the context. On a technical level, effects such as *normal mapping* are used to inscribe data and information within the textures, in order to emulate the light reflections on specific surfaces. Due to the limits imposed by the machines, these techniques are deployed to save resources and to increase the performance –often estimated in terms of frame rate– of the game. *Left 4 Dead*, for example, dynamically applies a vignette effect to the textures in order to convey the sinister tone of its setting and the sense of distress experienced by the characters in moments of tension.[292]
- 'light can conceal':[293] lighting can conceal elements within the environment. This aspect is fundamental in survival-horror games such as *Alone in the Dark*[294] and *Alan Wake*,[295] in which the interplay between light and shadow raises the level of tension and the expectation of the player as the dark areas can hide dangers and threats.[296] In other cases, shadows are used to conceal the player-character providing a stealth approach to the exploration of the environments, as for example in *Thief: Deadly Shadows*[297] and *Tom Clancy's*

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[291] Gerald Millerson, op. cit., 1991, p. 16.

[292] Cf. Randy Lundeen, 'L4D Art Direction, Part 1: Filmic Effects', in *Left 4 Dead 2 Blog* (10 November, 2008). Retrieved from http://www.l4d.com/blog/post.php?id=1962 (visited 28/05/2013).

[293] Gerald Millerson, op. cit., 1991, p. 16.

[294] *Alone in the Dark*, Eden Games, 2008, France.

[295] *Alan Wake*, Remedy Entertainment, 2010, Sweden.

[296] Not only there is a clear connection between the use of lighting and mood in video games, but some authors even sustain the presence of a direct psychological response from the player to certain lighting and colours pattern. Cf. Magy Seif El-Nasr, Simon Niedenthal, Igor Knez, Priya Almeida and Joseph Zupko, 'Dynamic lighting for Tension in Games', in *Game Studies* v. 7 (1), (August 2007). Retrieved from http://gamestudies.org/0701/articles/elnasr_niedenthal_knez_almeida_zupko (visited 12/05/2013).

[297] *Thief: Deadly Shadows*, Ion Storm, USA, 2004.

Splinter Cell: Conviction.[298] On the other hand, some video games use lighting to conceal their technical limits. Titles such as the original *Tomb Raider* and *Silent Hill*[299] use shadows to hide portions of the environment, limiting the amount of graphic calculus to be processed by the machine and consequently increasing the quality of the environment visualised in proximity to the avatar.[300]

- 'light gradations can suggest surface contouring' and 'light can suppress all surface contouring and detail, and reveal only the subject's outline':[301] this is the case in games such as *Alien vs Predator*[302], *Batman: Arkham Asylum*,[303] *Assassin's Creed*, *Far Cry 3* and generally those titles that offer to the player some kind of enhanced vision system or HUD.[304] Other games, such as *Left 4 Dead*, feature lighting systems that, although less realistic than others, produce results functional to the gameplay. In fact, *Left 4 Dead* implements a 'light-coloured fog'[305] that allows the player to spot the enemies' silhouette from distance, even in conditions of scarce illumination, enabling him/her a certain amount of time to react before the attack.

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[298] *Tom Clancy's Splinter Cell: Conviction*, Ubisoft Montreal, Canada, 2010.

[299] *Silent Hill*, Konami, 1999, Japan.

[300] Cf. Mark J. P. Wolf, op. cit., 2009, p. 165.

[301] Gerald Millerson, op. cit., 1991, p. 16.

[302] *Aliens vs Predator*, Rebellion Developments, UK, 2010.

[303] *Batman: Arkham Asylum*, Rocksteady Studios, UK, 2009.

[304] Relevant to this discourse are in fact some categories of subjective POV identified by Alexander Galloway. The author traces a parallel between different typologies of cinematic vision and the first-person POV in video games. Among others, the most relevant to discourses of lighting are the 'predatory' vision (referencing Carol Clover's work) seen in films such as *Halloween* (John Carpenter, USA, 1978), *Jaws* (Steven Spielberg, USA, 1975) and *Silence of the Lambs* (Jonathan Demme, USA, 1991), defined as a 'sadistic way of seeing characterised by aggressive action, forward movement and onscreen violence' (p. 50), and the 'computer' equivalent 'used to represent computerized, cybernetic or mechanic vision' (p. 53) in films such as *Robocop* (Paul Verhoeven, USA, 1987), *Terminator* (James Cameron, UK/USA, 1984) and *Predator* (John McTiernan, USA, 1987). Cf. Alexander R. Galloway, op. cit., 2006, p. 50–6.

[305] Cf. Randy Lundeen, 'L4D Art Direction, Part 2: Stylized Darkness', in *Left 4 Dead 2 Blog* (10 November, 2008). Retrieved from http://www.l4d.com/blog/post.php?id=2129 (visited 28/05/2013).

- ‘light can modify our impression of distance and size in a picture’[306]: this feature is most often used in video games in order to expressively amplify or diminish the perception of scale of the environment in accordance with the technical limitations of the machines. The oneiric sequences in *God of War 3* and *Alan Wake* exemplify this strategy, for which shadow is used to deprive the player of clear spatial perception by narrowing the visible portion of environment and casting an unclear landscape on the background. This prevents the viewer from clearly estimating the distance between the player-character and the horizon, amplifying the emotional charge of the scene. In this sense, the digital nature of the video game image is fundamental in order to merge abstract and naturalistic representations that are, here, both synthetic. Shadows in these games do not only result from the projection of light on to the environment, but they are also drawn in accordance with the viewpoint from which they are observed. The fusion between what is projected and what is drawn, highlights once again the negotiation between simulation and staging in video game mise-en-scene.
- ‘light can emphasize solidity and form’:[307] lighting in video games is essential in order to convey a sense of solidity of the environment and of the objects in it. Contrary to the physical world, due to the synthetic nature of the computer image a virtual world can be represented without any light source. Nevertheless, the complete absence of lighting systems creates a flat image, in which the foreground and the background overlap and are deprived of any depth cue and solid character. It is in fact the interplay between lights and shadows that provides a better understanding of the environment and the

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[306] Gerald Millerson, op. cit., 1991, p. 16.

[307] Ibidem, p. 17.

position of objects within it.

- ‘lighting can guide the audience interest’:[308] this aspect is of importance in video game mise-en-scene as it can be used to guide the player through the environment, simultaneously making up for the lack of framing control by encouraging the player to pay attention to specific objects and areas. In *Alan Wake*, the dark environments are contrasted by the presence of lit spots –they come in different forms, from streetlights to shop signs and light coming from windows– that the player can follow to traverse the level, and orient within it. Other games such as *Resident Evil 5*,[309] use light and reflections in order to indicate the presence of interactive elements and objects within the environment. This use of the lighting systems is, at times, counter-effective and disrupts the consistency of the illumination system and the overall coherence of the image. Often these objects stand out against the background to be easily spotted by the player, disrupting the coherence of the lighting in the composition. The metaludic character of this feature interferes with the suspension of disbelief, making the player aware of the function of the object on an extradiegetic level.
- ‘lighting can create compositional relationships for the camera’: [310] contemporary video game productions implement an increasing number of functions related to the lighting systems both on an aesthetic and gameplay level. Light can be used to create spatial, emotional and metaphorical relations between different elements, relying on the support of the virtual camera in order to convey them to the player. In this sense, the choice of the viewpoint must consider the lighting system and its relevance for the title.

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[308] Ibidem, p. 17.
[309] *Resident Evil 5*, Capcom, Japan, 2009.
[310] Gerald Millerson, op. cit., 1991, p. 17.

Alan Wake, which relies heavily on the lighting system both for narration and gameplay, uses a third-person camera that allows the player to appreciate the interplay between light and darkness in relation to the environments and the character. Many titles, such as *Metro 2033*,[311] provide a flashlight to the player, necessary to explore dark areas and to spot enemies. The presence of the light source forces the player to constantly adjust the camera and check the space around the corners of the frame, creating a symbiotic connection between the light-beam and the camera movements.

- 'light can develop an atmosphere or a mood':[312] this is probably the most important function of lighting in contemporary video games, as it expands the emotional and psychological impact of the events represented, consequently increasing the level of immersion and engagement of the player within the game world. All the titles mentioned in this section rely on their lighting system for functional and aesthetic goals to ultimately provide a deeper level of immersion. One of the most spectacular sequences in *Uncharted 3* portrays Drake in a gunfight on a plane, which leads to the activation of the fire alarm. The lighting in this sequence underlines the crescendo of tension, connoting the situation of distress with intermittent lights and, finally, a red luminous signal that precedes the collapse of the vehicle.
- 'light can imply time of the day and weather':[313] this is an interesting feature with regards to video game worlds, which poses questions of dynamic/procedural lighting vs static/scripted lighting. Nowadays, some video games provide "day/night cycles", that involve the lighting system in

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[311] *Metro 2033*, 4A Games, Ukraine, 2010.
[312] Gerald Millerson, op. cit., 1991, p. 17.
[313] Ibidem, p. 17.

determining the temporal character of experience.[314] Titles such as *Far Cry 3*, *Red Dead Redemption*, *The Elder Scrolls V: Skyrim*, *Minecraft*[315] and *SimCity*,[316] although belonging to different genres, all implement this feature with some consequences both in terms of aesthetics and gameplay. For example in *The Elder Scrolls V: Skyrim* and *Minecraft* the day/night cycle activates the presence of different characters within the environment.

– ‘light can isolate a subject’[317]: this aspect recalls the capacity of lighting to guide audience attention by pointing at specific elements, but also identifies the possibility of isolating those elements from their context in functional and metaphorical ways, creating meaning out of the triangulation of light, dark and the object represented. Once again, in *Alan Wake*, not only can the streetlights guide the player’s attention, signalling the direction and the path to follow, but they are also functional to the player-character for narrative and, consequently, gameplay reasons, providing a safe space from the threats of darkness. These safe areas are represented as cones of light that wrap the character isolating it from the dark and sinister surrounding environment. By simulating the technical limitation of a physical camera, the strong contrast between the illumination coming from the streetlights and the obscurity around it causes the obliteration of the field of view. Moreover, in titles that do not necessarily establish an explicitly cinematographic viewpoint such as *Diablo III*,[318] lighting is also used as a visual means of isolating the character

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[314] Dynamic lighting can be provided and interpreted at different levels and stages. From a temporal perspective, dynamic lighting can sustain a consistent flow of time in the virtual world –no matter unit measure, time flow is coherent in such systems– while from a spatial perspective dynamic lighting can provide a better characterisation and perception of depth as well as dramatize the action.

[315] *Minecraft*, Mojang, Sweden, 2011.

[316] *SimCity*, Maxis, USA, 2013.

[317] Gerald Millerson, op. cit., 1991, p. 17.

[318] *Diablo III*, Blizzard Entertainment, USA, 2012.

from the context and to provide a graphical representation of its limited field of view.[319]

- 'light can create visual movement':[320] this is particularly true for video games in which the lighting system, either dynamic or static, is completely under the control of the designers allowing them to animate the environments and the backgrounds also through the means of light. Games such as *Tomb Raider*, *Far Cry 3* and *Dead Space* use lighting to generate tension suggesting the presence of threats lurking in the off-screen space. In other titles, such as *Child of Eden*,[321] the lighting system has a prominent role in animating and giving motion to abstract and geometric elements in synchronicity with the rhythm of music. Here, the functional role of lighting imposes itself on the aesthetics, leading to a complete abstract style also supported by the functional use of colours.

The analytical tools developed for cinematic lighting encourage a reflection on the growing role of *expressive lighting* in contemporary video game productions. The increased quality of hard-lights and hard shadows in video games such as *L.A.*

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[319] In *Diablo III* the avatar is constantly surrounded by a soft circle of light that represents graphically the aura of the character invested with a sort of holy light that emphasises its elevated role as avatar, and at the same time represents the field of view –strategically limited in this game in order to provide a realistic perception of the presence of elements within the environment by not giving visual access to areas that are obliterated by walls, building or other elements– balancing the choice of an old-fashion isometric perspective, necessary due to the strategic character of the battles in this game. For an investigation of the causes and consequences of the implemented isometric perspective in this title see: Athanasios Petrovits, Alessandro Canossa, 'From M.C. Escher to Mass Effect: impossible spaces and hyper-real worlds in video games. How can hyper-real worlds be designed and interpreted in a 2D, 2.5D and 3D virtual environment and how will this implementation affect the stereoscopic 3D video games of the future?', in *GAME, Games as Art, Media and Entertainment*, v. 2 (1), 2013. Retrieved from: http://www.gamejournal.it/from-m-c-escher-to-mass-effect-impossible-spaces-and-hyper-real-worlds-in-video-games-how-can-hyper-real-worlds-be-designed-and-interpreted-in-a-2d-2-5d-and-3d-virtual-environment-and-how-will-thi/#.UZEx0ytvxXA (visited, 13/05/2013).

[320] Gerald Millerson, op. cit., 1991, p. 17.

[321] *Child of Eden*, Q Entertainment, Japan, 2011.

Noire[322] and *Mass Effect*[323] have led to an increase in the expressive capacity of the characters whose emotions are reflected and affected by the illumination. This possibility favours the implementation of an increasing number of close-ups, functional to the gameplay during dialogue sections, allowing for branching dialogues informed with the expressive performance of the characters, which is literally "highlighted" by the lighting system.

Analysing modern lighting systems in video games means that we must acknowledge certain arguments which have been developed concerning the medium's capacity for simulation as opposed to predetermination of effects. This argument contends that the increased calculus power of the machine allows the simulation of more dynamic elements, and envisions the video game medium as a self-sufficient cultural artefact capable of producing automatic synthetic images:

> […] in this article, we argue for the use of dynamic lighting. Dynamic lighting is a type of simulated lighting where lighting calculations are computed in real time. Therefore, using dynamic lighting enables on-the-fly lighting calculations accounting for real-time variations, such as change in game state, narrative, player's and characters' positions and camera movement. This practice privileges interaction, emotion and dramatic content, as opposed to the current methods that tend to rely on static lighting to emphasis virtual space.[324]

The rhetoric of simulation is reinforced and the interactive potential of dynamic

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[322] *L.A. Noire*, Team Bondi and Rockstar Games, USA, 2011.

[323] *Mass Effect*, Bioware, 2007, USA.

[324] Magy Seif El-Nasr, Simon Niedenthal, Igor Knez, Priya Almeida, Joseph Zupko, 'Dynamic Lighting for Tension in Games', in Game Studies, in *Game Studies* v. 7 (1), (August), 2007. Retrieved from http://gamestudies.org/0701/articles/elnasr_niedenthal_knez_almeida_zupko (accessed 11/02/2014).

lighting is associated with emotion and dramatic content, by comparison with static lighting techniques that are implicitly associated with lack of emotion. If it is true that dynamic lighting can allow a greater degree of flexibility in responding to player interactions, lighting in video games is nonetheless often a scenic trick, which produces an approximation of the effect of lighting in the physical world bent to the conventions of style and inspired by the codified means of cinema in order to convey dramatic staged effects. How would Lara Croft explore the tombs, sites and caves of her adventures if the lighting system realistically simulated the level of visibility in those dark spaces? Clearly, the player must be able to see the environment he/she is traversing. In Indiana Jones fashion, the temples and ruins explored by Lara are magically illuminated, often wrapped in a suggestive penumbra that increases the emotional charge of the environment. Hence, dynamic systems of lighting can grant the flexibility of a coherent reaction to player interactions and the possibility to believably recreate the illusion of a verisimilar –rather than realistic– illumination system but this tool is used, at its core, to design a scenic and dramatic experience.

In *Uncharted 3* the protagonist, Nathan Drake, finds himself lost and wandering in the desert.[325] In this sequence, the passage of time is conveyed through the alternation of day/night cycles, as the sand changes from bright and warm yellows to dark and cold blues. Here, light reflections on the sand are used to convey the mirage of water that takes form before the protagonist's eyes only to disappear soon after. The lighting that slowly blurs the contours of the objects amplifies the sense of extreme heat and conveys the exhaustion that consumes Drake right before he passes out:

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[325] *Uncharted 3: Drake's Deception*, 'Chapter 18: The Rub al Khali'.

> You try to make sure that, you know, we're using color and shape and lighting to all enhance the particular story we're telling. We want to make sure that everything emphasizes, you know, sadness, happiness, excitement, danger, low points, high points.[326]

[redacted]

Figure 5 - ***Alan Wake***

Alan Wake (Figure 5) relies heavily on its illumination system to reflect the theme of the game on an iconographic and metaphoric level, establishing an effective atmosphere and tone. Alan, a successful writer who is facing a creative block, retires to a cottage for a holiday with his girlfriend. The game starts right before the disappearance of the woman, an event that provides the motivation for Alan’s quest. The protagonist finds himself lost between light and dark, between sanity and insanity as the pages that he finds during his journey come to life before his eyes.

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[326] Interview with Robh Ruppel, art director for *Uncharted 3: Drake’s Deception*, ‘Uncharted Featurette 3’, extra in *Uncharted 3: Drake’s Deception*.

Throughout the game he continuously questions his anti-heroic role as his written work seems to be somehow connected to the events. The plot of the game develops a complex tale incorporating the memories of the protagonist, his hallucinations and nightmares, blurring the lines between fantasy and reality. With the progression of the plot, the mise-en-scene emphasizes the clash between Alan's real and oneiric perceptions, while the darkness becomes increasingly overwhelming, finally merging the two layers. On a formal and aesthetic level, the theme is conveyed through the juxtaposition between bright lights and dark shadows, which constitutes the most prominent aspect of the mise-en-scene in the game. Regardless of the environment in which the characters are framed – a cabin, a motel, the woods, a parking lot– darkness constantly surrounds them, becoming a source of tension. Threats are hidden in the shadows, making it difficult to spot enemies, traps and even to individuate a safe path through the levels. On the other hand, light and the sources of illumination become not only visually recognizable due to the contrast with the overwhelming obscurity, but also meaningful elements that provide a route for the player to follow, in order to orientate him/herself within the environment. The illumination coming from signs, cabin windows, streetlights, and even a lighthouse stand out from the black background, creating a pathway for the player to follow or providing a goal to be reached. The importance of lighting and shadows patterns in *Alan Wake* proves, once again, the relevance of cinematic discourses to video games. In relation to spatial composition in films, we saw earlier that Bordwell and Thompson have argued that:

> The arrangement of the mise-en-scene creates the composition of the screen space. That two-dimensional composition consists of the organization of shader, textures, and patterns of light and dark. In most

> films, though, the composition also represents a three-dimensional space in which the action occurs. Since the image projected on the screen is flat the mise-en-scene must give the audience cues that will enable us to infer the three-dimensionality of the scene.[327]

Not only can the effective use of lighting and shadows in video games amplify their emotional impact and improve the narrative quality of the text, but it can also enhance the intrinsic spatial depth of the medium, implementing techniques that stress the three-dimensional character of the space represented on a bi-dimensional image. In *Alan Wake*, the flatness of the dark environment is broken by lighting patterns that develop a sense of three-dimensionality. Finally, these elements become an important part of the gameplay dynamics: the creatures faced by the protagonist are made out of darkness and, consequently, they are sensitive to light. For this reason, Alan is given a flashlight and flares that he uses as weapons against the darkness and its inhabitants. Moreover, Alan can find shelter and a safe space under sources of light that create a shield against enemies. This reinforces the necessity to 'follow the light'[328] –in all its forms– throughout the entire game, proving not only the aesthetic value, but also the functional purposes of expressive lighting in recent video games. Stephen Prince comments on the flexibility of synthetic lighting in digital media:

> The ability to cheat source lighting or to invent a wholly new kind of light points to a difference between digital lighting and cinematography that is performed with real light. A real-world cinematographer is more

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[327] David Bordwell, Kristin Thompson, op. cit., 2004, p. 208

[328] The voice that giudes Alan out of the nightmare in the first sequence of the game, instructs him to 'follow the light' in order to be safe. Cf. *Alan Wake*, 'Episode 1: Nightmare'.

> constrained by the physics of light. To serve an aesthetic goal, its properties can be manipulated but not altered, as can a CG lighting scheme in which shadows or light diffusion may be cheated. [329]

The increased technological power available allows for experimentation with the expressive capacity of lighting. *Alan Wake* is one among a number of mainstream games that use lighting and colour in order to create oneiric atmospheres exemplifying the cross-fertilisation of audiovisual codes between cinema and video games. Borrowing the words of John D. Barlow in relation to 1920s German cinema, in *Alan Wake*: 'Spotlights were used to isolate the actor in darkness, emphasizing his loneliness and alienation, while the contrast between light and dark were emphasized to show the conflicts the individual was faced with'.[330] Titles such as *God of War 3*,[331] *Batman: Arkham Asylum*,[332] *Far Cry 3*, *Dead Space 2*,[333] *Uncharted 3*,[334] *Mass Effect 3*, *Heavy Rain*[335] and *Grand Theft Auto V*[336] include dream-like sequences, nightmares, and hallucinations conveyed through the expressive use of lighting that enhances the overall "expressionistic"[337] character of the mise-en-scene. In these sequences the naturalistic representational aspiration is traded for nightmarish and

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[329] Stephen Prince, *Digital visual effects in cinema: the seduction of reality*, New Brunswick: Rutgers University Press, 2012, p. 69.

[330] John D. Barlow, *German Expressionist Film*, Indianapolis: Indiana University Press, 1982, p. 22.

[331] Cf. *God of War 3*, 'Chapter 9: The End'.

[332] Cf. *Batman Arkham Asylum*, 'Back to Intensive Treatment'.

[333] Cf. *Dead Space 2*, 'Chapter 15: It Ends Here'.

[334] Cf. *Uncharted 3: Drake's Deception*, 'Chapter 11 – As Above so Below'.

[335] Cf. *Heavy Rain*, 'Chapter 13: Lexington Station'.

[336] Cf. *Grand Theft Auto V*, 'Strangers and Freaks: Grass Roots'.

[337] The word 'expressionistic' is used in the parameters proposed by John D. Barlow. According to the author, the term "expressionism" and its adjective "expressionist" are historically bounded, hence problematic and meaningful only when used in relation to the German cinema of the 1920s: 'On the other hand, expressionistic is an adjective that is still valid. Its meaning is not tied down historically. It applies wherever distortion occurs as part of an ambience of anxiety and internal conflict, without deliberate homage to the ideology of expressionism'. Cf. John D. Barlow, op. cit., 1982, p. 204, 205.

abstract 'visions'[338] recalling those displayed in Weimar cinema. When subsequently disconnected from the cultural context of the time, characteristic elements such as the use of chiaroscuro lighting, hard shadows, twisted backgrounds and optical deformations have become part of cinematic codes that are understood and applicable outside of cinematic contexts: '[…] film expressionism has been for the most part a mother of applied techniques'.[339] Today, these techniques inform video games and are used to provide psychological depth to characters and events.

In *Alan Wake* the mise-en-scene is altered to convey a sense of estrangement and alienation. These episodes provide access to the character's inner world and to his internal conflicts, creating what are –by previous standards– relatively atypical gaming moments. The contrast between light and shadow is used in order to punctuate the psychological friction. Borrowing from the seminal work of Lotte H. Eisner, it is possible to reflect on the role of lighting in informing the psychological characterisation of the protagonist:

> '[…] a selective and creative distortion gives the artist a means of representing the complexity of the psyche; by linking this physical complexity to an optical complexity he can release an object's internal life, the expression of its 'soul'. The Expressionists are concerned solely with images in the mind. [340]

Moreover, the visual distortions offered in these sequences are mirrored on a gameplay level. The normal gameplay activity is momentarily suspended and its

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[338] Lotte H. Eisner, op. cit., 2008, p. 10.
[339] John D. Barlow, op. cit., 1982, p. 101.
[340] Lotte H. Eisner, op. cit., 2008, p. 23, 24.

focus shifts to different actions available to the player that enforce the narrative impact of the scene. In these sections the rules of the game are often intentionally modified, forcing the player out of the established patterns and limiting the set of actions available to those of moving and looking around the distorted environment.

[redacted]

Figure 6 - ***Mass Effect 3***

Such is also the case in *Mass Effect 3* (Figure 6), in which the protagonist's guilt for not being able to prevent an alien invasion of Earth is conveyed in a dream sequence. In the dream, Shepard wanders in the woods surrounded by shadowy silhouettes, while in the background a glimpse of crepuscular light filters through the thick fog that with the monotonous and grave music establish the atmosphere of this liminal reality. The presence of inconsistent elements, such as a bench and the thin ashes that fill the space in front of the camera, encourages a sense of estrangement reinforcing the surrealist character of the scene. The dark colour palette and the scarce illumination of the environment create a homogeneous chromatic background that highlights the presence of any bright coloured element. A child in a white jumper stands out among the shadows. His laugh echoes over the indistinguishable whispers that fill the background, occasionally interrupted by the feeble voices of Shepard's comrades, rehashing memories of previous battles and losses. The whispers, in this sequence, change depending on the choices made by the player and their consequences over the course of the three games which make up this series. For example, if during the first game the player decides to sacrifice Kaidan Alenko over Ashley Williams, it is possible to hear Kaidan's last words to Shepard, reassuring him about his choice, right before dying: 'That won't happen. Go get her, Commander. I'll see you all when you get back'. While reinforcing the oneiric character of the sequence, the whispers haunt the woods like the shadows that roam in it, representing the countless losses experienced by the protagonist during his numerous fights. With regards to German Expressionism, Barlow underlines the fundamental psychological connotations of distortion and their functional role in the interpretation of such films: 'Distortion is exploited to reveal the "true essence" of things', he continues, 'Distortion alone does not make a film expressionistic. There must be distortion to convey extreme emotions'.[341] The absence of landmarks within the environment encourages the player to follow the child. The kid, bowed to the ground, plays on his own and runs away as soon as Shepard approaches him. When the player-character reaches the child, a red light illuminates the spot followed by a striding electronic rumble. The music is the leitmotiv of the game, an electronic march of war that reminds the player of the overwhelming alien threat. The player immediately recognises the child, met by Shepard at the beginning of the game, when –during a cutscene– he escapes the alien attack to the Earth. Shepard helps the child only to later witness his death, when the aircraft that is carrying him outside of the warzone is destroyed by one of the alien droids. The child is the one recognisable ghost that haunts Shepard's conscience, in a way consistent with the expressionist tradition that provides '[…] depiction of anxiety-ridden, desperate, emotional intensity, generalized as an aspect of the human condition'[342]. He is the materialisation of Shepard's guilt for not being able to save millions of human lives on Earth, impersonally represented by the shadows in the woods. The red flashes that provoke the child to run run recall the annihilating lasers of the alien machines, reflected on the child's face at the beginning of the game, right before the explosion of the vehicle. On a gameplay level, the avatar moves in slow motion, preventing the player from reaching the kid before he vanishes among the trees. All other gameplay actions, to which the player has been educated during the three instalments of the game series, are here suspended: there is no shooting, nor management of the characters' party. Both the action and the strategic components characteristic of the game are not present in this section, focusing exclusively on the narration via exploration. The player can only move the avatar around the environment, orienting

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[341] John D. Barlow, op. cit., 1982, p. 24, 25.
[342] Ibidem, p. 26.

the camera in order to observe it. In a way, the limited controls reflect the sense of estrangement experienced by the character during the nightmare, pointing at the unconventional nature of this piece and, in consequence, at its critical role within the game. The dream shows Shepard doubting his role as a hero and saviour of human kind. At the same time, the sequence is pregnant on a metacritical level; it questions the general rhetoric of heroism and pervasive violence in contemporary video games by providing a segment in which the player is deprived of these options, forced to rethink his/her interaction and, more generally, the archetypical gaming models.

[redacted]

Figure 7 - ***Far Cry 3***

[redacted]

Figure 8 - ***Far Cry 3***

The metacritical use of expressionistic techniques associated with dream sequences is even more relevant in *Far Cry 3* (Figure 7, Figure 8), which mixes two different approaches in terms of gameplay dynamics. While in some of the hallucinations[343] the player moves within the environment, exploring the player-character's mind materialised in the visionary mise-en-scene –deploying a strategy of gameplay subversion also found in sequences from *Mass Effect 3* and *God of War 3*–, other deliriums[344] require the player to perform actions and to fight against uncanny creatures. In these sections the game's rules change in order to reflect the extraordinary status of the situation. For example, in 'New Rite of Passage' Jason –the protagonist– faces humanoid daemons. Again, in 'Pay Back' after being stabbed by his nemesis, Vaas, the player-character fights against waves of clones of the villains that disappear when shot, conveying to the player James's frustration for failing to defeat Vaas. At the same time, as James grows stronger and more violent, his connection to Vaas appears clear, to the point of emphasising a doppelganger relationship between the two characters. The creatures are James's doubles, projections of the self, swinging between the desire for vengeance and the fear of becoming a monster in the process. Throughout the game, the player witnesses the "transformation" of Jason from victim to warrior. The use of expressionistic techniques is often associated with the figure of the doppelgänger, the otherness within the individual: 'In the ambiguous world of German cinema people are unsure of their identity and can easily loose on the way'.[345] This trope is particularly appropriate to *Far Cry 3*'s gameplay and mirrors the learning curve of the player as he/she develops and masters the environment and its inhabitants acquiring new skills and learning to move with confidence among the islands that provide the game's

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[343] Cf. *Far Cry 3*, 'Mushrooms In The Deep' / 'Meet Citra' / 'Hard Choices'.
[344] Cf. *Far Cry 3*, 'New Rite of Passage' / 'Payback'.
[345] Cf. Lotte H. Eisner, op. cit., 2008, p. 109.

setting. Similarly, the video game player slowly gives in to the seduction of violent interactions. Captivated by the cognitive flow, the player learns violence as a means of interaction not only within this single game, but more pointedly, on an intertextual level, within genres and, more generally, as a founding pillar of the entire medium's aesthetics. Quoting Andrew Weber, Dietrich Scheunemann defines the doppelgänger in expressionist cinema as a 'challenge to received ideas of identity'.[346] The subversive gameplay mechanics and the metacritical contents of these sequences seem in fact to problematize the relationship of the player with the character through the fracture of the character's identity. During the mission 'Meet Citra', Jason is given a drug that should help him to embrace his instincts and follow the path of the warrior taking possession of a sacred dagger.[347] In typical oneiric fashion, the sequence opens with Jason free falling from the sky into the sea. Without suffering any damage, the character gently floats on a chair, sitting at a poker table with his friends, also abducted at the beginning of the game by Vaas's soldiers. The cards and the fish float in the water, making explicit the surrealist and uncanny nature of the moment. As the level of the water decreases, Jason's friends disappear and the character finds himself on a path, following his friend Dennis, who disappears into bolts of light only to reappear further on the road, leading Jason to a cabin and preventing him from getting too close. On the path, the vegetation grows fast as Jason walks, underlining again the unnatural and artificial character of the world. As

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[346] Andrew Weber, *The Doppelgänger* (p. 3, 148), quoted in Dietrich Scheunemann, 'The Double, the Décor and the Framing Device: once More on Robert Wiene's *The Cabinet of Dr. Caligari*', in Dietrich Scheunemann (ed.), *Expressionist Film: New Perspectives*, New York: Camden House, 2003, [pp. 125–156] p. 131.

[347] The use of drugs as a narrative trope to justify visions and hallucinations is found also in some films associated or influenced by the expressionist wave. Like the cocaine in *Dr. Mabuse*, also video games such as *Grand Theft Auto V* and *Uncharted 3: Drakes Deception* use drugs as expressionistic bridge for hallucinations. While in *Uncharted 3* the nature of the deformation is optical, used to convey the confused state of mind of the character and his disorientation within the environment, in *Grand Theft Auto V* colourful lights and staging effects point at the entertaining and ironic character of the sequences, celebrating the merge of violence and drugs that seem to provide for an enhanced ludic experience.

Jason traverses the threshold of the cabin, the screen fades into white and the sound of bubbles anticipates the underwater setting of the final part of the dream. Here the environment is again constructed in order to force the player's timed passage on a predetermined route. At the bottom of the sea, Jason crosses a bridge, while on both sides he can observe tableaux, almost animated stills, of his suffering friends, tortured by the hand of Vaas and the other villains. Here the expressionistic traits of the scene are accentuated. Ocular filters are used to convey the water surrounding the character and, at the same time, his distorted dream vision. Moreover, spotlights from above illuminate the tableaux adding a dramatic quality to the scene, emphasizing the traumatic nature of these episodes that create a stage within the stage, a gallery of memories that display the collapse of Jason's identity. On a parallel metacritical level, the dream questions the player's allegiance to the character, underlining the lack of critical distance by occasionally overlapping the image of Jason with the victims and then with the torturer, implying his responsibility for his friends' suffering within the cycle of violence.

Moreover, in the hallucinations 'Payback' and 'Hard Choices' the environment around the path, where the staged events take place, is nullified, immersed in a thick darkness that confers a nightmare character upon these episodes. The obscurity provides a dramatic background to the lighting, which is used to point at the relevant elements within the scene, guiding the attention of the player/spectator as he/she walks through the predetermined path. During the first hallucination in 'Mushrooms In The Deep', the lighting is used to convey the passage from the physical to the dream reality. Once again, the shadows enclose the environment, deleting the walls and the ceiling of the cave that opens out on to a wider dark jungle. At the same time, the shift is conveyed via colour hue, now saturated in violet and now green, evoking the effects of a drug "trip". Later in the scene, Jason reaches Dr. Ernhardt's greenhouse, where at the beginning of the mission he asks him to collect curative mushrooms from a cave. The presence of the greenhouse inside the cave makes explicit the surrealistic nature of the scene. The building moves further as Jason approaches it, intensifying his frustration in trying to fulfil his mission. When Jason's enters the greenhouse, the familiar objects contained, such as mushrooms and lab bottles start floating and turning into dust.

[redacted]

Figure 9 - ***God of War 3***

Similarly, in *God of War 3* (Figure 9) lighting is used to convey information about the character’s inner world. Towards the end of the game, the protagonist, Kratos, loses consciousness during a fight against Zeus that causes him to fall into a nightmare. The protagonist wanders through a completely dark environment that mirrors his subconscious. Here, Kratos witnesses episodes of his life that implicitly question his choices and suggest his guilt for the violence perpetrated. The player follows the lights displayed by Pandora, who tries to help him out of the nightmare, in order to successfully traverse the environment. The expressionistic tone of this sequence is identifiable in the sophisticated use of lighting and colour. The character and the environment are portrayed in black and white with the exception of some coloured elements: the vivid red of Kratos’s tattoo symbolically recalls the blood he shed during his journey and the sins for which he deserves to be punished; also in red are the burning horizon in the background and the trail of blood that leads him from memory to memory, representing the victims of his wrath. Finally, a bright blue colour is associated with Pandora’s light, which mitigates the dramatic red on Kratos’s path and reflects the character’s supportive role.

God of War 3 is just one among many titles that make expressive and functional use of colours showing the relevance of aesthetic formal discourses applied to video games. According to David Batchelor ‘colour has been the object of extreme prejudice in Western culture’, disregarded by rhetoric of otherness in relation to the contents associated with it (colourful elements are considered extravagant), and judged superficial when deployed for formal purposes (certain colouring techniques create visual excess).[348] As underlined by Richard Misek, the digital status of the

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[348] David Batchelor, ‘Chromophobia’, in Angela Dalle Vacche and Brian Price (eds.), *Colour: the film reader*, London: Routledge, 2006, [pp. 63–75] p. 63–64.

videoludic image nullifies the opposition between different chromatic codes, allowing them to engage in a new formal dialectic that exploits the creative potential contained in their stratification: ‘The dematerialization of screen colour has brought an end to black-and-white and colour’s technological separation’.[349] From their inception, video games have used colour in order to compensate for the representational limits of the machines. Through colour video games have been able to overcome the constraints of the abstraction imposed on the medium, creating iconic elements out of few pixels. Distant from the myth of the realist simulation, video game lighting and shadows was (and often still is) conveyed through static backgrounds that used colours to set the mood or to suggest an atmosphere. In this sense, colour has been a founding element of video game aesthetics, a fundamental tool of visual narration. For example, video game stars of the 1980s’ such as Super Mario and Sonic relied on vivid colours (red for the former blue for the latter) in order to form a correspondence with the more detailed illustrations on the boxes of the games. Colour in this sense, was used to bridge the abstraction of the proto-text with para-textual materials. According to Richard Misek: ‘Cinematic colour emerged from black-and-white, defined itself in response to it, and has evolved in symbiosis with it. The history of cinema is made of cyclical “moves away from as well as toward common notions of realism’.[350] After the initial period of ‘film colour’[351] in which films where embellished with tints applied to their celluloid base, ‘optical colour’[352] was steadily rationalised, narratively justified in early colour films such as *The Wizard of Oz*, bringing the chaotic and sensual element of colour in line with

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[349] Richard Misek, *Chromatic Cinema: A History of Screen Color*, Wiley-Blackwell, Oxford, 2010, p. 165.

[350] Richard Misek, op. cit., 2010, p. 2.

[351] Ibidem, p. 12.

[352] Ibidem, p. 12.

normative models.[353] This process is often actualised through a rhetoric of time and dimensions that 'eliminates temporal ambiguity' and makes sense of the chromatic juxtaposition.[354] Misek calls this rationalised alternation between black-and-white and colours a 'motivated hybridity', which trespasses conventional distinctions between different modes of representation and is inherited by the language of new media. It is not only in *God of War 3* that the passage from colour to black-and-white signals a dimensional shift within the diegesis –in reversed relationship with the paradigm of *The Wizard of Oz*[355]– this also happens in *LA Noire*, where "absence of colour" is used, borrowing Misek's word, to 'reference past representations, […] an expression of a cinematic nostalgia'[356]. In the latter, the relationship with the past is developed on three levels. Firstly, black-and-white constitutes a codified way to summon a diegetic past in opposition to the colour present. Secondly, the game uses black-and-white to reference a particular genre, an example of using the cinematic canon to play with the expectations of the player in relation to tropes and iconographies. On the other hand, it makes explicit references to a technological past, that of cinematic form, as opposed to the digital present represented by video games. In the sequence from *God of War*, the opposition between the monochromatic and the coloured elements establishes a dialogical relationship that surpasses the diegetic rationalisation, in favour of a more abstract symbolism –an aesthetic trait found also in some contemporary films such as *Sin City*[357] and *300*[358]– using 'color monochrome' as stylistic mark has now entered the canon of representational

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[353] Ibidem, p. 2.

[354] Ibidem, p. 92.

[355] *The Wizard of Oz*, Victor Fleming, 1939, USA.

[356] Richard Misek, op. cit., 2010, p. 111.

[357] *Sin City*, Frank Miller / Robert Rodriguez / Quentin Tarantino, 2005, USA.

[358] *300*, Zack Snyder, 2006, USA.

strategies becoming ‘a global visual cliché’.[359]

Cinema eventually surpassed the classical Hollywood paradigm of motivated juxtaposition. Starting in the 1960s: ‘Unmotivated chromatic hybridity was one of an arsenal of techniques with which [filmmakers] assaulted bourgeois cinema’[360]. Video games have followed in the footsteps of cinema in this respect as well. A few indie titles have abandoned the codified relation between black-and-white and colours in favour of more experimental approaches.

[redacted]

Figure 10 - *Unfinished Swan*

Unfinished Swan[361] (Figure 10) uses black-and-white to disorient the player and draw him/her into a world “in the making”. The player impersonates Monroe, a boy in search of a swan missing from a painting, and travels in a virtual world that is initially presented as a white canvas. The absence of any colour, lighting or shadows prevents the player from establishing any sense of orientation and spatial configuration. The principal means of interaction available to the player are the ink balls that the player-character can throw allowing the shape of the objects to emerge from the white background, consequently creating a sense of spatial depth. By painting the white world in black ink, the player is able to proceed through the environment, finding paths and following the yellow footsteps of the missing swan. *Unfinished Swan* combines black-and-white and colours to achieve a functional

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[359] Richard Misek, op. cit., 2010, p. 165.
[360] Ibidem, p. 71.
[361] *Unfinished Swan*, Giant Sparrow /SCE Santa Monica Studio, 2012, USA.

pictorial style that highlights the 'silhouette'[362] of the objects, building on the juxtaposition between the flatness of the white screen and the three-dimensionality of the ink spattering on the surfaces of the environment.[363] In a way, the game's chromatic style is a testament to video game "chromophilia", proved by the importance of colours in games and their ability to transcend normative representational discourses. *Unfinished Swan* belongs to a group of titles such as *Limbo*[364] and *Outland*[365] that experiment with colours in an expressionistic way, through strong contrasts and oppositions that are charged with meaning and build a binary tension. According to Barlow: 'Expressionism was primarily a function of black and white silent films. The sound film and, above all, the color film undercut its stylistic possibilities. Extreme contrasts are easier to maintain where there is a higher definition of one sense'[366]. Nevertheless, thanks to the digital nature of the videoludic image, the same level of contrast can be recreated not only between black and white, but also between monochrome and colours.

The use of expressionistic techniques in these titles suggests a desire for aesthetic experimentation, pointing at a videoludic avant-garde that breaks the constraints of

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[362] Gerald Millerson, op. cit., 1991, p. 238.

[363] The prominence given to discourses of colour in *Unfinished Swan* is not limited to its stylistic techniques. Also on a narrative level, the game develops an allegory of the conflict between rules and creativity through colours. The game tells the fairy tale of an abandoned child that dreams at night of the unfinished swan in his mother's painting and decides to look for it, entering an extravagant dream world. The game begins with a child, named Monroe, living in a orphanage after his mother death. One night, Monroe wakes up and finds that the swan portrayed in one of the favourite paintings of his mother had disappeared from the canvas. Monroe notices an open door in the room and traversing it he enters a magic realm. Out of obsession with the elegance associated with whiteness, the king of the realm banned all colours from his kingdom. Monroe, and the player with him, discovers the story of the king and his land, visiting parts of the world that are progressively filled with colours. Eventually, the player understands that Monroe is the king's son and his mother the Queen, who left the magic realm right before giving birth to Monroe. With this narrative framework, the use of colours in the game becomes a metaphor for the estrangement of Monroe from his father's path while following into his mother's footsteps.

[364] *Limbo*, Playdead, 2010, Denmark.

[365] *Outland*, Housemarque, 2011, Finland.

[366] John D. Barlow, op. cit., 1982, p. 169.

realism, which otherwise binds video game aesthetic discourses, in order to reveal the "true essence" of things and to unveil their conflicting nature. In fact, when the aesthetics of the image is integrated within gameplay dynamics, the experimentation leads to a questioning of the very foundation of the medium, its overarching discourses, its canon, the implicit structure and politics of it. Michael O'Pray describes the relativity of avant-gardes in relation to established forms of expression:

> If we do acknowledge an avant-garde then we need to consider what it is the avant-garde of. In art history the term 'avant-agarde' was originally used to describe French painting of the early decades of the nineteenth century (Nochlin 1967). It represented an aesthetically and politically motivated attack on traditional art and its values. Borrowed from socialist politics in the same period, 'avant-garde is a military term denoting an advanced group forging an assault on the enemy ahead of the main army. With film in mind, we may ask who represents the main army and who the enemy? The main army could be the 'true' idea of cinema and film itself and the enemy, the dominant traditional cinema. Or the main army could be mainstream cinema, and the avant-garde its advanced group foraging for new techniques, forms of expression and subject-manner.[367]

The oneiric sequences in *Mass Effect 3*, *God of War 3* and *Far Cry 3* force the player to step out of his/her conventional immersion within the diegetic logics of the game. The player-character's inner world and visions become a means to question the very rules of the game, its assumptions, implanting the potential for subversive discourses even in commercial and mainstream products. The estrangement created by these

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[367] Michael O'Pray, *Avant-Garde Film: Forms, themes and passions*, London: Wallflower, 2003, p. 3.

moments against the dynamics established throughout the rest of the game amplifies their effect and relevance even despite their short duration in time. Rees appeals to the idea of "shock" to explain the founding moment of any avant-garde, a moment of fracture from the expectations of the audience: 'Shock is an idea in art as much as a sensation, to denote the fact of stopping viewers in their tracks, however briefly'.[368] Aesthetics are used to endow the mechanics with different meaning, to create a dissonance between what precedes and follows the experimental moment in the game, forcing the player to critically engage with what has been provided until that moment and consequently taken for granted. Also Scott MacDonald points at the importance of the estrangement created by avant-garde works, their potential to deconstruct normative definitions, creating a dynamic interplay between codification and experimentation:

> Generally, the first response generated by an avant-garde film is, "This isn't a movie," or the more combative "You call *this* a movie!?" Even the rare responsive viewer almost inevitably finds the film – whatever its actual length in minutes – "too long." By the time we see our first avant-garde films, we think we know what movies are, we recognize what "everyone" agrees they should be; and we see the new cinematic failures-to-conform as presumptuous refusal to use the cinematic space (the theater, the VCR viewing room) "correctly".[369]

Similar dynamics of negotiation between expectation and innovation take place in games such as *Unfinished Swan*. According to the Art Director Ian Dallas, part of the

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[368] A. L. Rees, *A History of Experimental Film and Video: From the Canonical Avant-Garde to Contemporary British Practice*, London: British Film Institute Publishing, 1999, p. 4.

[369] Scott MacDonald, *Avant-garde film: motion studies*, Cambridge: Cambridge University Press, 1993, p. 1.

polarisation in the reception of the game is imputable to the expectation created by the prototypical text, the ideal video game resulting from the sum of the aesthetic conventions found in mainstream productions:

> This game has a very different approach. We're more interested in what it feels like to discover a new thing. I think a lot of games are about what it feels like to become an expert in something. Unfinished Swan is about what it feels like to be a child discovering a brand new world. Everything about the game, hopefully, is done in a different way, because it's got different goals. Unfortunately, the game is being reviewed as if it has the same goals that most games have.[370]

The aesthetic experimentation is not confined to the surface of the videoludic image but it is reflected also in its structure, its gameplay that comes across as diverse and unfamiliar to the player, who is challenged in his/her knowledge of what the medium is and its possibilities, in video games just like at the cinema:

> The experience provides us with the opportunity (an opportunity much of our training has taught us to resist) to come to a clearer, more complete understanding of what the cinematic experience actually can be, and what – for all the pleasure and inspiration it may give us – the conventional movie experience is *not*.[371]

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[370] Ian Dallas, 'The story behind the emotional center of *The Unfinished Swan* (in-depth interview)', in *VB GamesBeat*, 20/10/2012. Retrieved from: http://venturebeat.com/2012/10/20/unfinished-swan-interview-part-one/ (visited on 15/01/2015).

[371] Scott MacDonald, op. ct., 1993, p. 2.

Eventually 'innovation' is followed by 'assimilation' and 'consolidation'[372], when some of those experimental techniques, born to break the norm and create awareness of the implicit constraints of the canon, are normalised and absorbed as part of the tradition. As for expressionism, these elements are emptied of their political meaning, becoming stylistic traits codified as part of the expressive repertoire of the medium, often associated with specific genres (for example, horror and noir in the case of expressionistic features).

As noted by Prince in relation to digital cinema: 'The digital realm affords many opportunities for cheating the behaviour of light and shadow in ways that real-world cinematography has harder time accommodating'.[373] The use of expressive and experimental aesthetic features in these titles becomes finally integral to their gameplay dynamics, creating a functional aesthetics that, as argued by Simon Niedenthal, has been part of the medium since its birth: 'Other essential functions of color developed in early games to support player activity, either by indicating affordances for future actions, or else providing feedback for completed player moves.'[374] The author points out the importance of colour in highlighting pathways and affordances for the player within the virtual world, structuring the ludic elements through audiovisual cues. Games such as *Mirror's Edge*,[375] *Far Cry 3*, *Tomb Raider* and *Assassin's Creed* use colour to point at interactive spots and edges within the environment, especially in order to highlight for the player the possibility of vertical exploration.

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[372] A. L. Rees, op. cit., 1999, p. 14.
[373] Stephen Prince, op. cit. 2012, p. 66.
[374] Simon Niedenthal, op. cit., 2014, p. 68.
[375] *Mirror's Edge*, DICE, 2008, Sweden.

[redacted]

Figure 11 - top to bottom: ***Assassin's Creed*****,** ***Uncharted 3, Tomb Raider***

Other examples of the assimilation of these codes in mainstream products are provided by the ways in which colour deprivation (or colour loss) is used to convey the deteriorating health condition of the player-character and, eventually, his/her death (Figure 11). The chromophobic paradigm is reversed and the hierarchy between black-and-white and colour is rewritten in favour of the latter. In fact, nowadays video games largely deploy strategies of *colour haemorrhage*: the loss of colour substituted by black and white, in order to signal danger, distress and the imminent death of the player-character. The merging of the two chromatic codes within video games is nowadays codified as a standard tool to convey information about the avatar in a less iconic and more symbolic way. When Drake, Lara Croft, Shepard and Jason suffer the wounds and injuries caused by the attacks of their enemies and by the hostile environment, the warmth of the colours fades away succeeded by the cold black-and-white that announces the imminent death of the character. Here function and aesthetics merge into one, for the chromatic dualism is a mirror of the status of the player-character, a fundamental message to the player who is then required to change strategy, protect the character, allowing it to recover before striking again. Colour haemorrhage is the codification of aesthetic experimental techniques that have come to form part of audiovisual language across multiple media. Examples of this technique can be found as early as *Wolfenstein 3D*,[376] in which the damage inflicted to the player-character as well as the upgrades for its equipment are shown via coloured flashes (red for damage and yellow for power-ups), and later in *Hitman: Codename 47*,[377] which uses a hybrid system in which the player-character's condition is displayed via health bar, but the death of the avatar activates a sequence that frames the dying character against a white background. The use of colour haemorrhage is connected to a change in game design which occurred in the 1990s, closely tied to the advent of the fifth console generation.[378] In order to open the video game market to a wider audience there was a conscious move away from punishing dynamics, which forced the player to regain health through the use of health-packs and medkits, in favour of self-regenerating player-characters that regain

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[376] *Wolfenstein 3D*, id Software, 1992, USA.

[377] *Hitman: Codename 47*, IO Interactive, 2000, Denmark.

[378] The fifth console generation was characterised by the introduction of integrated optical devices, allowing larger storage memory. At the same time, the sales of the PlayStation system worldwide showed the potential of the video game market beyond the established hard-core audience, towards a more generalised one. The development of titles such as *Tomb Raider*, *Resident Evil* and *Silent Hill* which combined a cinematographic appeal with more mature content was a statement testifying to the intention of the developers to expand and diversify their target audience.

health under the condition of not taking damage for a certain time.[379] Games such as *Half Life* further experimented with the functionality of such aesthetic tools, using a red glare to indicate the direction of the attack. *Tomb Raider* (the reboot provides a clear example of the shift towards this feature. In order to mark the passage to a more realistic and mature adventure (but even more importantly to make it appealing for a wider and more adult market) the last title in the series produced by Crystal Dynamics is completely free from any iconic HUD representation of health (up until the previous instalment, *Tomb Raider: Underworld*, the series made use of a heath-bar to monitor the player-character's status) replaced only by the marks on Lara's body and a red glare representing the increasing heartbeat whenever she is wounded. As the damage increases, colours fade into black-and-white, showing the progressive loss of consciousness of the player-character. Here the lenses of the virtual camera merge with Lara's sensorial experience, creating a device of empathic representation.[380]

The use of lighting and colour in games such as *Alan Wake*, *Far Cry 3* and *Tomb Raider*, but even more so in titles such as *Limbo* and *Unfinished Swan*, shows the level of maturity reached by video game in terms of aesthetics, in their willingness to

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[379] This process is part of a larger change in which video games become less punitive and, as a consequence, more appealing to a wider audience. Some games feature a system of permanent death for which the player has to restart the entire campaign in case of the death. This was particularly used in some MMORPG (Massively Multiplayer Online Role-Playing Game) such as *Everquest* (Sony Online Entertainment, 1999, USA) and *Star Wars: Galaxies* (LucasArts, Sony Online Entertainment, 2003, USA), and in some single player RPGs, such as *Ultima III*: Exodus (Richard Garriott, UK, 1983). With the disappearance of perma-death systems, the learning curve was softened, making it easier for the casual player to occasionally engage with the game without feeling frustrated by failed attempts. Moreover, this phenomenon is also connected to the emerging cinematographic character of contemporary video game productions that often privilege narrative over the ludic function. The more narrative oriented new titles partially dismiss the logic of repetition characteristic of the ludic medium in favour of a one-time experience. Where ludic oriented products focus on the repetition of same actions so players can perfect their scores, narrative games concentrate on the fruition of the story that, once unfolded by the player, eventually comes to a predetermined end.

[380] A more detail reflection on the mediating role of the camera is developed in Chapter 5.

abandon photorealistic discourses. For Prince ‘Photorealism is often not the goal of digital aesthetics –careful cheats in the interests of style and tone are often more important than the simulation of camera or lighting reality’.[381] The development of a functional aesthetics, which becomes an integral part of the gameplay, proves the importance of pre-existing audiovisual codes for contemporary video games and, consequently, underlines the relevance of film theory and cinematic discourses to provide a more nuanced understanding of these features.

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[381] Stephen Prince, op. cit., 2012, p. 70.

Chapter 4 – From Avatar to Character, from Character to Star: performance, acting and stardom in the virtual era.

The last chapter of this section is dedicated to the interplay between interpreter and role, triangulating the relationship between the actor, the player-character and the player. The questions in this chapter concern video game characters and the ways in which they are different from characters in movies. What are the similarities between them and what can we understand about video game characters through film theory? These topics represent underexplored territory for video games, and the same might also be said for cinema. As noted by Pamela Robertson Wojck: ‘despite the attention to actors, there is little popular discussion of acting in movies. […] In addition, film acting can seem transparent and resistant to description or analysis’.[382] Theories of acting have seldom found their place in film theory, and are most commonly raised in comparative discussions about theatre emphasising the difference between performances in the two media. Traditionally, discussions on acting are grounded in a dichotomy between stylisation and realism in performance, where the first is generally associated with theatre while the second is considered an intrinsic quality of the cinematic medium. More recently, historiographical works have highlighted the strong presence of pantomime and other theatrical performance styles in early cinema, conveying a sense of continuity with the older medium. According to this perspective, the subsequent development of a cinematic language that created greater proximity between the actor and the camera encouraged the emergence of a more naturalistic approach, which has been ever since crystallised in the Hollywood

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[382] Pamela Robertson Wojck (ed.), *Movie Acting, The Film Reader*, New York: Routledge, 2004, p. 1.

paradigm. Nevertheless, the rhetoric of naturalism hides an ideological vision of the medium based on a form of technological determinism, which has been extensively criticised in recent times. Naturalism is associated with the medium's ability to mechanically reproduce reality. This is, once again, theoretically associated with arguments on the indexical quality of the photographic image and with the influence of Bazinian realism. Hence, the ideology of realism has profoundly inflected discussions on acting and performance, as reflected in the analysis of movements such as Italian Neorealism. Neorealism has proved to be an influential case study not only for its supposed realistic aesthetics of the long-take, but most notably for the deployment of non-professional actors capable of conveying a truthful interpretation of everyday characters. Nevertheless, revisionist accounts have shown how neorealism not only made use of professional actors, especially for key roles, but also constructed an alternative star-system that created an equally artificial model of stardom amongst working-class actors, thus proving the rhetoric nature of its realism. The 'naturalistic style' offers, in fact, a different but still stylised way of acting, based on a certain proximity between the camera and the actor, which leads the actors meaning vague and unclear here creating an illusion of reality dependent on codified modes: 'Thus naturalism, which began as an attack on rhetoric or "staginess", remains in the end an orderly, formal construction, never radically challenging the conventions of proscenium drama'.[383]

The reluctance to investigate acting is even more evident in relation to video games, due to the layered nature of performances and the necessity to account for the multiplication of mediating instances. The majority of scholarly works concerning

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[383] Cf. Pamela Robertson Wojck, op. cit., 2004, p. 45.

virtual performance focus on the anthropological, psychological and sociological implications of the social interaction between players within the virtual environment, rather than on its aesthetics.[384] Similarly to its development in film language, acting in video games went through a process of progressively enhanced naturalism. Initially, three-dimensional games featured characters with basic move routines, often resulting in pantomimic performances. Crucially, the performance of the virtual characters was not automatically highlighted by the camera. As with spectators at the theatre, the player was entrusted with the process of individuating and selecting elements displayed on stage to focus upon. The lack of graphical detail combined with the necessity to efficiently convey information to the player generated stylised movements and animations easy to spot and decode. Nevertheless, improvements in technologies (involving both the increasing use of motion capture devices, and the calculus power of the machines processing this information) influenced the evolution of acting in video games, creating new opportunities that once again demand a reflection on the relationship between stylisation and realism.

Moreover, video game characters are rapidly breaking free from their digital bond, joining the pantheon of stars that populate the media. The growing extra-textual presence of these characters requires that we reflect on issues of stardom, on its significance, its characteristics, its problems and ultimately its functions. The notion

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[384] Analyses *of World of Warcraft* exemplify this approach; this MMORPG has been made the object of extensive, investigations specifically in relation to issues of identity, roles, group and social dynamics, anthropological participatory work etc. Cf. Dmitri Williams, Nicolas Ducheneaut, Li Xiong, Yuanyuan Zhang, Nick Yee, Eric Nickell, 'From Tree House to Barracks: The Social Life of Guilds in World of Warcraft', in *Games and Culture*, v. 46 (2) (April) 2014, [pp. 113–127]. Retrieved from http://gac.sagepub.com/content/1/4/338.short (accessed o 24/03/2014). Cf. also Katherine Bessière, A. Fleming Seay and Sara Kiesler, 'The Ideal Elf: Identity Exploration in World of Warcraft', in *CyberPsychology & Behavior*, v. 10 (4) (August) 2007, (pp. 530-535). Retrieved from http://online.liebertpub.com/doi/abs/10.1089/cpb.2007.9994 (accessed on 24/03/2014). Cf. also Hilde G. Corneliussen and Jill Walker Rettberg (ed. by), *Digital Culture, Play, and Identity: a World of Warcraft Reader*, Massachusetts: MIT Press, 2008.

of stardom applied to video games is, in fact, further complicated not only by the virtual nature of the characters, but also by their negotiated nature as mannequin, player-character and personas, that generates an unusually high degree of interactivity and proximity with the players/audience. Not only through gameplay, but also through characters and their representation video games are powerful political texts that reiterate hegemonic and pervasive ideologies. For example, video game characters present issues of gender, race and generational typecasting not always inscribed in the gameplay, but rather at another level of representation. Analysis of the ideological connotation of such characters is made difficult by the interactivity granted to the player, the possibility to create or select a character[385], the ability to toy with it, to manipulate it creating subversive narratives within the game. Many videos on *YouTube*, display grotesque decoupages of death scenes that show the protagonists of famous franchises such as *Dead Space*[386] and *Tomb Raider*[387] perishing in multiple ways. This is not only problematic in relation to the depiction of violence and its aesthetisation (the game contains a number of QTE that trigger

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[385] Even among those video games that feature the presence of a player-character mediating for the player's interaction, there are a number of different typologies. The first difference lies in the opposition between user-generated avatars (personalised characters developed by the player through specific tools) and predetermined player-characters (predesigned and assigned to the player by the machine). Moreover, in between these two options, some genres feature the possibility to select characters from a roster. Games such as *Tekken 3* (Namco, 1998, Japan) and *Soul Calibur* (Project Soul, 1999, Japan) base their structure on the fight between two opponents. The gameplay in fighting games is repetitive and the longevity is not provided by the variety of situations as much as the number of possible combinations (for example, within each character's move list) offered to the player. Another relevant tradition is that of customizable avatars, inspired by classic "pen and paper" RPG**[s]**. As suggested by the name, this typology of games is based on the interpretation of a character, a role to play in both the ludic and the theatrical sense. For this reason, these games have developed a system of avatar creation that allows the player to develop them according to personal preferences. The avatar does not necessarily reflect the physical characteristics of the player, but the creative process allows for the projection of his/her own identity on the character rather than taking control of an existing one. Unlike films, video games allow the player not only to relate to a character through the camera, but also to embody it, to control it like a puppet or even inhabit them.

[386] Cf. Throneful, 'Ten Ways to Die in Dead Space 3 [HD]', in *YouTube* (09/02/2013). Retrieved from http://www.youtube.com/watch?v=jvHrA_p6Daw (accessed on 14/03/2014).

[387] Cf. David the Barbarian, 'All Tomb Raider Deaths! Every Death Animation of Lara Croft', in *YouTube* (05/03/2013). Retrieved from http://www.youtube.com/watch?v=sWrSUmhn-Xs (accessed on 13/03/2014).

sequences that can lead to one of the many possible gory deaths of the character), but games like *Tomb Raider* adds another unsavoury dimension determined by the gender of the protagonist, the representation of violence against her and the demographic characteristics of the primary audience.[388] Hence, this chapter investigates performance, understood in relation to screen culture and, once again, in the triangulation between video games, theatre and cinema. Derek Burrill underlines the sensuous connection between players and player-characters trespassing the limits imposed on theatre as a result of the intimacy achieved through the screen:

> Likewise, the space of play operates in a manner similar to that of more traditional performances, where the screened border functions as a proscenium arch and fourth wall (or camera lens, in some cases). Yet, this barrier is permeable, crossed by the corporeal connections the player experiences through the visceral nature of the games, through the mouse and the controller, and through a "suturing" of player onto character or "avatar."[389]

The digital turn forced scholars in multiple fields to rethink acting, especially on an ontological level: '"What constitutes film acting?" How is film acting different from stage acting? How do editing, framing, and sound affect or produce film performance? What exceeds the cinematic?'.[390] The "excess" of the cinematic performance is, in fact, rendered more analogous to video games through the shared

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[388] The initial marketing target for the first *Tomb Raider* was estimated to be 'male between 15 and 26 years of age'. Cf. Pretzsch, Birgit, *A Postmodern Analysis of Lara Croft: Body, Identity, Reality*, Master Thesis, Women's Studies, Trinity College Dublin, Ireland, 1999. Retrieved from http://www.frauenuni.de/students/gendering/lara/LaraCompleteTextWOPics.html (accessed 17/03/2013).

[389] Derek Alexander Burrill, 'Out of the Box: Performance, Drama, and Interactive Software', in *Modern Drama*, v. 48 (3), 2005, [pp. 492–512] p. 493.

[390] Pamela Robertson Wojck, op. cit., 2004, p. 9.

realm of digital performance. Video game performance, like its cinematic equivalent, is mediated by technology that becomes a differentiating element between acting and performance:

> […] a major challenge to traditional conceptions of the star is now mounted by computer animation. In 2001 a film entitled *Final Fantasy: The Spirits Within* was produced in which no "real" actors appeared. Instead, the drama's cast was completely synthetized (in a manner that resembled live-action and not animation). […] Thus, we might ask: Is screen acting (already a virtual performance by dint of its removal from pro-filmic space) now on its way to being entirely dematerialized?[391]

Performance is the result of the manipulation of an actor's work, by the hands of the director, the editor and other postproduction specialists, who together disassemble the performance and rebuild it in accordance with the needs of the text: 'Performance in cinema always has been a construction synthesized from discrete elements removed from their original contexts, rearranged, reordered, reshaped'.[392] With the introduction of digital technologies, the manipulation of the performance became more evident and obvious, as the indexicality of the photographic image collapsed under the ambiguity of the digital signal.[393] The case of *Final Fantasy: The Spirits Within*[394] is emblematic of the complexity of digital performance and its discourses. The rhetoric in this case is that of human absence and supersession by the synthetic, framing the digital image as a simulated product of the machine that leads to 'The

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[391] Lucy Fischer and Marcia Landy, *Stars, the Film Reader*, New York: Routledge, 2004, p. 2.

[392] Stephen Prince, op. cit., 2012, p. 101.

[393] For an account on the influence of technology and digital tools on performance, see Mark J. P. Wolf, 'The Technological Construction of Performance', in *Convergence* v. 9(4) (December) 2003b, [pp. 48–59]. Retrieved from http://con.sagepub.com/content/9/4/48.abstract (accessed on 21/07/2015).

[394] *Final Fantasy: The Spirits Within*, Hironobu Sakaguchi, Motonori Sakakibara, 2001, USA/Japan.

abandonment of stars and notorious faces in favour of faces that exist only as starting point for the creation of models'[395]. The critique activated by these discourses is the inability of these "models" to become believable realistic characters, for '[…] they are empty and the audience knows it. […] They are ghosts. *Final Fantasy* is a symphony of shadows.'[396] These "shadows" are said to be incapable of producing an emotional response in the viewer, haunting the screen instead with their uncanny character. Reacting to the pressing emergence of digital technologies, the film industry has responded with movies that offer disparaging and alarmist representations of deceiving synthetic creatures in films such as *Simone*:[397] 'Simone represents the death of the actor and even of reality'.[398] Similar metaphors are used to describe the player-character and its relationship with the user. According to Steve Dixon:

> The idea of the body and its double pervades digital performance, and relates to the shadow figure of the doppelgänger, Freudian notions of the uncanny and the subconscious Id, and Jacques Lacan's concept of the mirror stage and the *corps morcele* (the body in pieces).[399]

In fact, the video game player is not only similar to a director, in the fact that he is often in charge of framing the action and the characters, investing a considerable amount of time into trying to find the right camera angle, but he is also a puppeteer that participates in a "play" by moving the puppet on stage. Video game characters

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[395] Alessandro Amaducci, 'Un cinema senza film, I nuovi linguaggi del cinema digitale', in Mario Gerosa (ed.), *Cinema e Tecnologia. La rivoluzione digitale: dagli attori virtuali alla nuova stagione del 3D*, Genova: Le Mani, 2011, [pp. 30–41] p. 31 (translated by the author).

[396] Alessandro Amaducci, op. cit., p. 32, 34 (translated by the author of this work).

[397] *Simone*, Andrew Niccol, USA, 2002.

[398] Stephen Prince, op. cit., 2012, p. 70.

[399] Steve Dixon, 'The Digital Double', in Gavin Carver and Colin Beardon (ed.), *New Visions in Digital Performance. The Impact of Digital Technologies*, Lisse: Swets and Zeitlinger, 2004, [pp. 13–30] p. 14.

can be classified in two main categories: non-playable and playable.[400] The playable character becomes the digital emanation of the player, allowing him/her to "act" in the virtual world:

> The computer avatar, a graphical 'stand-in' for the human body within virtual worlds, links the notion of the double as a spiritual emanation to the final category of digital double, the manipulable mannequin. The term 'avatar' derives from Hindu scriptures, being the bodily incarnation of the deities. The Sanskrit *Avatara* translates as a descent, the passing down of the gods from heaven to the material world, and artists such as Mika Tuomola have created avatars which embody this sense of mythical being or digital deity. [401]

Originally, the concept of "avatar" presumes a process of incarnation, the transcendence of one's body and the temporary appropriation of another, which makes them 'supernatural ambassadors of agency'.[402] The avatar is, at the same time, a double and a surrogate, something that develops its own individuality although still depending on the player to take action, to animate it and play it:

> The relationship between the player and the avatar takes place in the

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[400] This notion is further complicated by the presence of mediating instances that allow the player to play multiple characters, alternatively or at the same time. Useful to this distinction is the semiotic analysis offered by Massimo Maietti, which divides the relationship between the player and the avatar into 4 main categories. In the case of absent simulacrum, the player action is articulated directly in the virtual world without the mediating presence of the avatar (*Tetris*). The second case is that of the individual simulacrum, in which one avatar is assigned to the player, allowing a high degree of identification with it. The third category is that of the multiple simulacra, for which the player is provided with control over a party (RPG games like *Dragon's Age*) or even an entire army (RTS games such as *Age of Empires*). The last category, almost in a circular movement, is that of the super-individual simulacrum that assumes the control of the player on the entire virtual world, without the mediation of individual characters, but providing the control over the entirety of them, almost in a god simulation (*Civilization*, *Sim-City*). Cf. Massimo Maietti, *Semiotica dei Videogiochi*, Torino: Edizioni Unicopoli, 2004, pp. 128–130.

[401] Steve Dixon, op. cit., 2004, p. 25.

[402] Bob Rehak, 'Palying at Being: Psychoanalysis and the Avatar', in Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader*, New York: Routledge, 2003, p. 106.

> interplay between the acting of the player and the performance of its character, creating a negotiation of identities between the projection of the player onto the avatar and the emergence of the character within the avatar: 'The video game avatar, presented as a human's player double, merges spectatorship and participation in ways that fundamentally transform both activities.[403]

The player literally "animates" the synthetic character in the virtual world, modifying it, moving it, activating functions and eventually "playing" its role. The word animation acquires a new meaning, beyond the accepted definition of "drawing", closer to the etymology of its Latin root (ănĭmus–i) and to its literal meaning: to 'infuse with soul', but also 'intention' and 'feelings'.[404] Christian Uva describes the relationship between the etymology of the word and its meaning in the digital environment:

> To put to the test his "sense of the body", bring it to its limits, in order to reach a true technological ecstasy, literally intended as a *getting out of oneself* configurable in terms of *e-motion*, hence an emotion (again in its etymological meaning of *movement towards the outside*) produced and experienced through digital activity (*electronic motion*). [405]

Through emotions, the player is capable of transcending their identity and merging with that of the avatar, empathising with it and establishing an emotional bond. The

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[403] Ibidem, p. 103.

[404] Christian Uva, 'L'attore e la *digital performance* nel cinema sintetico', in Mario Gerosa, *Cinema e Tecnologia. La rivoluzione digitale: dagli attori virtuali alla nuova stagione del 3D*, Genova: Le Mani, 2011, [pp. 93–104] p. 96.

[405] Christian Uva, op. cit., 2011, 98 (translated by the author).

connection between the two is created through the process of acting, playing a role, which determines the difference between watching and playing: '[…] one job of mainstream acting is to sustain "the illusion of the unified self", or what Pudovkin called "the organic unity of the acted image"'.[406] At the cinema this unity is that created between multiple shots, multiple acting instances that merge together via editing. In video games, acting develops unity between the avatar and its player, suturing the two instances.

> Crucial to this evolution is the avatar's gradual but relentless acquisition of "liveness". In appearance, movement, and character, avatars have ever more clearly come to mimic their players, developing personality, individuality, and an ability to act within the (virtual) world–as must any infant on its way to maturity. [407]

Once again, the concept of "liveness" is crucial for creating a believable synthetic environment. Liveness is here intended both in the sense of "live", situated in a precise time – that of the on-going and multidimensional present– in which the videoludic discourse is framed, but also in its meaning of "alive". But how is liveness created in a video game performance? Which are the distinctive aesthetic traits of liveness in contemporary video game productions and what are the instances involved in the digital performance? Looking again at the cinematic paradigm, 'we might ask how changing technologies, such as digital imaging, have affected film acting (even eliminating the need for it in *The Hulk* or the role of the Gollum in *Lords of the Rings: The Two Towers*)'.[408] Moreover, 'In their study of screen

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[406] James Naremore, *Acting in the Cinema*, Berkeley: University of California Press, 1990, p. 5.
[407] Bob Rehak, op. cit., 2003, p. 108.
[408] Pamela Robertson Wojck op. cit., 2004, p. 10.

performance, Cynthia Baron and Sharon Marie Clarnicke acknowledge this problem, which they call "the still uncertain status of screen performances. Are they instances of authentic acting? Or are they the result of filmmakers' sleight of hand?" The problem endures. Has cinema's digital revolution complicated it?'[409] The answers to these questions provide a key to the understanding of the changes which have occurred in video game aesthetics in relation to acting and performance, its specificity and proximity to the cinematic model in the way they recreate liveness on the virtual stage but also, on top of everything, the continuing centrality of the human performance as a model or modeller to the virtual one. According to Shilo McClean: 'The desire to create a CG human indistinguishable from live-action performers remains a goal for DVFx, one that is being achieved bit by bit, and in so doing it is creating the cues needed to convince audiences to accept that what they see is so'.[410]

Giving life to digital characters has been the focus of digital animation over the past 15 years, and some of the relevant problems and discourses are closely related to those which confront video games. The goal is to create a believable character, capable of taking life on the screen allowing the audience to establish an emotional connection to them. In 1982 digital graphics was introduced at the cinema with *Tron*,[411] which inaugurated[412] the virtual era at the cinema and also a new discursive relationship between cinema and video games.[413] Nevertheless, due to the high costs

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[409] Stephen Prince, op. cit., 2012, p. 101.

[410] Shilo T. McClean, *Digital Storytelling: The Narrative Power of Visual Effects in Film*, (Cambridge, Massachusetts: MIT Press, 2007), p. 60.

[411] *Tron*, Steven Lisberger, 1982, USA.

[412] Other films before, such as *Vertigo* (Alfred Hitchcock, 1958, USA) and more in the 1970s, made use of CGI effects, but the history of CGI at the cinema is generally punctuated by the diegetification of the object within the film, in works such as *Tron*.

[413] Pascal Pinteau, *Special effects: an oral history: interviews with 38 masters spanning 100 years*, Geneva: Éditions Minerva, 2003, p. 114.

of production, it was only at the beginning of the 1990s –*The Abyss*[414] (1989) and *Terminator 2*[415] (1991)– that cinema adopted digital instruments in a more consistent and successful way,[416] and finally with *Jurassic Park*[417] (1993) fully synthetic characters took digital life on the big screen and 'audiences got to experience the first-ever hyperrealistic digital animals on film'.[418]

In contrast to traditional animation, digital animation, due to the process of automation, acquired the ideology of realism as a motivating goal for the reproduction of the object represented by the machine. Stephen Prince individuates two main tendencies in the use of digital effects in feature-length animation: the 'enormously popular New Traditionalists led by the works of Pixar, and the more ambitious HyperRealist projects such as *Final Fantasy*'.[419] Based on a popular Japanese video game saga, *Final Fantasy* represents the first attempt to bring the two media together not only on a content level, extending the existing franchise, but also in formal terms. The fully CG rendered images of Final Fantasy try to bridge the gap between video games and cinema through a mature and photorealistic imagery. The technology behind the film and its impressive production were marketed to showcase the technical marvel of the film. The rendering of the protagonist's (Aki Ross) hair deployed an *ad hoc* engine and 'When *Final Fantasy: The Spirits Within* was released in 2001, an old dream was accomplished: hyperrealistic virtual actors appeared on the screen for the first time'.[420] Digital effects allowed the development of flexible tools, capable of enhancing photographic images as much as creating new

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[414] *The Abyss*, James Cameron, 1989, USA.
[415] *Terminator 2: Judgment Day*, James Cameron, 1991, USA/France.
[416] Pascal Pinteau, op. cit., 2003, p. 118.
[417] *Jurassic Park*, Steven Spielberg, 1993, USA.
[418] Pascal Pinteau, op. cit., 2003, p. 119.
[419] Stephen Prince, op. cit., 2012, p. 98.
[420] Pascal Pinteau, op. cit., 2003, p. 264.

synthetic representations. Prince highlights the hybridity and blurred boundaries between digital and non-digital characters:

> Some characters–WALL-E or the family of superheroes in *The Incredibles*–are completely realized through animation, whereas others–Gollum, Benjamin Button–incorporate the contributions of a live actor whose movements or facial expressions are photographically captured and then used as the basis for constructing an animated character.[421]

Digital imagery is the product of the computer, a 'meta-medium'[422] that forces us to reflect on the multiplication of instances involved in the mediation of the performance. The digital tools of postproduction embed the ideology of hybrid performance and their structure informs on its stratified nature. Computers allowed the development of a number of techniques that integrate synthetic and human performance, blending them together in a seamless way. Prince describes multiple typologies of actors that emerge in digital media:

> They may be present as the live action component of composited shots (for example, Naomi Watts acting with King Kong). They may give a performance that is motion-captured for use in animating a digital character (for example Andy Serkis as Gollum).[423]

Digital tools of production force us to reflect on the 'expansive concept of

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[421] Stephen Prince, op. cit., 2012, p. 103.
[422] Lev Manovich, op. cit., 2001, p. 33.
[423] Stephen Prince, op. cit., 2012, p. 103.

performance in cinema, one that encompasses all these traditions'.[424] Instead of substituting human performance, digital technologies are most frequently used in order to enhance it. Techniques such as morphing allow the seamless merging of digital and photographic images by automatically creating frames of transition from one to the other:

> A morph involves manipulating imagery, which in 2-D is warped and cross-dissolved to conform to another image, or by using 3-D techniques that can be blended with a variety of animation and optical treatments to move from one image to another, and can persuasively represent the concept of shape-shifting and physical transformation of extraordinary magnitude.[425]

Other techniques such as rigging[426] are used to increase the human-like quality of the virtual character by creating a skeletal model that allows the simulation of coherent procedural movements. Although the creation of skeletal animation seems to support the progressive automation of the performance, rigging is often used in combination with motion capture.[427] The use of motion capture links the virtual model to the performance of a human actor, establishing a bridge between the simulation of the model and the individuality of the actor.[428] Alberto Menache explains the relevance

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[424] Ibidem, p. 102.

[425] Shilo T. McClean, op. cit., 2007, p. 61.

[426] Cf. Fabio Bonvicini, 'Da Leonardo a Hollywood. Gli attori virtuali – Le tecnologie', in Mario Gerosa, *Cinema e Tecnologia. La rivoluzione digitale: dagli attori virtuali alla nuova stagione del 3D*, Genova: Le Mani, 2011, [pp. 82–92] p. 86.

[427] Alberto Menache defines motion capture as 'the process of recording a live motion event and translating it into usable mathematical terms by tracking a number of key points in space over time and combining them to obtain a single three-dimensional (3D) representation of the performance. In brief, it is the technology that enables the process of translating a live performance into a digital performance. Alberto Menache, *Understanding Motion Capture for Computer Animation* (second ed.), Burlington, Massachusetts: Elsevier, 2011, p. 2.

[428] A prototypical idea of motion capture can be found in the process of rotoscoping, in which live-action footage is projected on a plane allowing the animator to draw on it.

of motion capture in video games and its evolution:

> The video game industry was the first segment of entertainment to embrace motion capture as a viable tool for character motion, whereas motion capture is used on almost every video game that involves human motion. It started doing so at a time when the motion capture hardware and software was still producing low-quality results at a high, but not extreme, cost. At the time, video games didn't require or rather couldn't handle high-quality motion data because they lacked the memory and rendering power to create complicated graphics, so the two industries evolved together and as rendering power increased, so did the camera resolution needed to produce the better motion quality. Video games today can handle just as high-resolution motion data as feature films.[429]

Through motion capture, not only is human performance present in digital cinema, disproving characterisations of this medium as alienating and exclusively synthetic, but it also colonised the virtual worlds of video games, which have been keen on deploying this technology since its inception. In a way, the synergic improvements of this technique on both the cinematic and videoludic side, encouraged its development and convergence, explaining the similarities between the two media also in their modes of production. Motion capture technologies make it difficult to separate the actor's performance from the synthetic one, complicating the process of discerning the product of the human from that of the machine. Nevertheless, even in the case of fully digitally animated characters, in which the human factor appears completely removed, Prince points at the figure of the animator as another layer in the

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[429] Ibidem, p. 41.

stratification of the performance process:

> The third condition is the most significant and influential and the one that is perhaps the least obvious–the animator is an actor and works with the objectivity that an actor in live theatre does not have. […] the animator who creates a digital character onscreen must give a performance, expressed through the character as it is created, shaped, and given movement in the expression of feeling and attitude.[430]

According to the author although 'an aesthetic bias exists against digital performance, it may be connected with the marginal status that animation itself occupies in film theory and aesthetics'.[431] Tom Gunning also identifies a derogative attitude toward animation which he considers as a possible category to define a larger tradition of film, away from the fixation with indexicality, finding its essence in the moving image: 'Further, a renewed focus on cinematic motion directly addresses what I feel is one of the great scandals of film theory, which I previously mentioned as an aporia resulting from the dominance of a photographic understanding of cinema: the marginalization of animation'.[432] The bias against animation, and especially against digital images, accounts also for the reticence of film scholars in addressing video game aesthetics. The ideology of the index marginalised animation and digital imageries from Film Studies, incidentally encouraging the emphasis placed upon ludology in Game Studies. In accordance with this tendency, playing has been analysed and studied mostly in its ludic aspect rather than as a form of acting. In the updated paradigm, digital animation is ascribed to the tradition of

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[430] Stephen Prince, op. cit., 2012, p. 103.
[431] Ibidem, p. 102.
[432] Tom Gunning, op. cit., 2007, p. 38.

performance, as the animator literally “animates” the characters performing with it. For example, in the production of *Final Fantasy: The Spirit Within* ‘The animators used mirrors to model their own expressions for the characters, which, as a result, took on qualities of the animators’ performances’.[433]

Prince supports his argument by providing an account of the experience in acting that is generally required from animators. Nevertheless, an epistemological problem arises from the assumption that any formative experience immediately provides professional competences. Just like actors, directors often take acting and photography classes, but this does not necessarily qualify them to take on such roles. Just like directors, animators need first hand experience and knowledge of acting in order to give directions to the virtual characters. Animators have a defined role that is best described by the label –“animator”– that identifies their work. Surely animators share a deep connection with the characters they create. They infuse the inanimate digital character with life, sometimes projecting personal traits on them, consequently establishing a strong and often recognisable bond. Nonetheless, the animation is only part of the performance that is, also in this case, a product of the stratification of multiple “actors” involved in the process. Even those characters that are fully synthetically animated are, eventually, given the voice of actors, whose vocal performance is merged with the synthetic one.

[redacted]

Figure 12 - *Metal Gear Solid*

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[433] Stephen Prince, op. cit., 2012, p. 120.

Before the development of motion and performance capture, narratively oriented video games, such as *Metal Gear Solid* (Figure 12), relied on vocal performance in order to make up for the lack of detail and convey dramatic intention regardless of the technological constraints imposed upon the characters' models. Here the vocal performance is exaggerated, over-the-top and pantomimic in order to fit the iconic manga style of the game. Nevertheless, the importance of the characters to the title's cinematic flavour is stressed by the in-game use of captions that display the name of the actors dubbing them.[434] The British accent of Lara Croft, although not attached to a single interpreter, is a fundamental part of the character's identity, demonstrating the relevance of the vocal performance to the characterisation of synthetic beings. The relevance of vocal performance is still expanding in contemporary productions, as it is no longer limited to cutscenes or to the dialogue interaction with other characters, but develops the personality of the player-characters in that they often comment on their experience in the virtual world. In *Uncharted* and *Tomb Raider*, the player-characters vocally interact with the world around and comment on the situations and events that involve them. The importance of in-game vocal performance is evident especially during the first level of *Tomb Raider*, used in order to establish the emotional tone of the game and of the player-character, but also to give cues on the gameplay mechanics. Lara, after being attacked, regains consciousness and finds herself tied upside down to the ceiling of a cave. In order to convey her character's new unheroic qualities –a central narrative premise of this entry in the series– Lara panics and screams for help: 'Help… Jonah? Reyes! Help!

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[434] The game displays the name of the actors in accordance with the different languages. For example, the character for Grey Fox, originally interpreted by Kaneto Shiozawa (塩沢 兼人) in the Japanese version, is dubbed by George Byrd in the English version and Massimo Marinoni in the Italian one.

Got to get down. I can't die like this'.[435] Lara screams, shaking at the feeling of the fire burning the cloth around her legs: 'This is going to hurt. Oh god, no… no, no…' .[436] As the player explores the cave, Lara comments, manifesting her discomfort looking at the intimidating decoration of the cave and the corpse of a member of her crew displayed on an altar: 'What is this place? What happened to you…?',[437] At the same time, Lara's commentary functions as a guiding voice which helps the player to spot relevant objects –'A torch…'[438]– necessary to progress.

The voice commentary is, also in this case, functional to the gameplay, providing the player with directions on the path to follow and with solutions to the puzzles. For example, early in the game the player is introduced to the use of "focus" by the voice of Lara, who recalls mentor's (Roth) lessons[439]: '[Lara] Just remember Roth's training. [Roth] You can have the best form and technique in the world, but it won't mean a thing if you can't focus. The key to using any weapon is focus.'[440]. The deployment of functional voice acting, used to give directions and to limit the need for text on screen, is exemplified again in *Uncharted 3*, in which Drake's comment alerts the player to the presence of nearby grenades.

The intertwined nature of the human and machine performance is made even clearer by looking at the second category identified by Prince, the 'composited performance'[441], in which the performance of the actor is digitally enhanced (by

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[435] Cf. *Tomb Raider*, 'Introduction'.

[436] Ibidem.

[437] Ibidem.

[438] Ibidem.

[439] Also in *Uncharted 3*, during Drake's hallucination the player can hear both the voice of the avatar and the one of the villain, Talbot, who insinuates in his mind using a drug to extract information. Cf. *Uncharted 3: Drake's Deception*, 'As Above so Beyond'.

[440] Cf. *Tomb Raider*, 'Costal Forest'.

[441] Stephen Prince, op. cit., 2012, p. 103.

motion capture, performance capture or even prosthetic makeup). Moreover, the use of digital tools allows for the merging of multiple acting instances layered in the same performance in order to combine the abilities and skills of different performers. This is, traditionally, the most common use of motion capture for instances when the actor is replaced by the stuntman in order to perform physically challenging or dangerous actions. In video games, this aspect is even more pronounced and voice acting is often detached from physical performances. For example, the character of Copperhead, in *Batman Arkham: Origins*[442], combines the work of three performers: one for the voice, one for the motion capture and for the fighting sessions, and a third one used for specific acrobatic stunts.[443]

Final Fantasy: The Spirit Within proved unsuccessful at the box office and, in line with the derogatory attitude towards digital technologies, the film was criticised in relation to its synthetic status epitomising the supposed dilution of the cinematic medium by digital technology. On the one hand, as highlighted by McClean: 'to make the accusation that "technology swamps storytelling" –perhaps meaning that the effects are more interesting than the story– is more a comment on the story than it is upon technology'.[444] On the other hand, despite its extremely high budget and the advanced technology deployed in its production, the characters in the film were perceived as empty shells: 'Today, the perceived failure of *Final Fantasy* is widely regarded as demonstration of the paradox known as "the uncanny valley".'[445] The failure of *Final Fantasy* is, first of all, representative of problems common to many

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[442] *Batman Arkham: Origins*, WarnweBros Games Montréal/Splash Damage, 2013, Canada.

[443] Cf. Batman Arkham Videos (user ID), 'Batman: Arkham Origins - The Making of Copperhead Video', in *YouTube* (18/12/2013). Retrieved from https://www.youtube.com/watch?v=t8YYdeE_smo (accessed on 04/04/2014).

[444] Shilo T. McClean, op. cit., 2007, p. 3.

[445] Stephen Prince, op. cit., 2012, p. 121.

video game-to-film adaptations such as the inability of these titles to reflect the essence of the game both on a formal and narrative level. More importantly, *Final Fantasy* proves the challenges engendered in digital animation, specifically in relation to hyper-real visual styles: 'Whether using motion capture or traditional techniques, character animation is one of the most difficult of the visual representational arts because people can read and understand minute details of the body language and physical communication'[446]. Prince comments on Masahiro Mori's influential theory of the 'uncanny valley'[447] establishing a direct correlation between animation and the level of liveness showed by the characters against the unsettling emptiness of their inanimate nature:

> But then: "as robots appear more humanlike, our sense of their familiarity increases until we come to a valley. I call this relation the 'uncanny valley.'" A threshold is crossed where the imitation becomes so close and exacting that its remaining incompleteness points to its status as a surrogate, as something not real, and this results in a loss of empathy from viewers, a pulling back, as what had seemed so familiar becomes defamiliarized. Mori pointed out a converse principle, namely, that perceptions of high familiarity can be induced by nonhuman or by semi-humanlike designs. His example was Japan's bunraku puppet theater: "I don't think a bunraku puppet is similar to human beings on close observation." But audiences sit some distance from the puppets that move in humanlike ways. "So although the puppet's body is not humanlike, we can fell that they are humanlike owing to their movement. And from this evidence I think their familiarity is very high." Mori's insight is consistent

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[446] Shilo T. McClean, op. cit., 2007, p. 58.
[447] Masahiro Mori, 'The Uncanny Valley', in *Energy*, v. 7 (4), 1970.

> with the realization by Disney and Pixar animators that caricature conveys emotion in concentrated form. Viewers intuitively understand what the exaggeration conveys, and no sense of the uncanny is evoked.[448]

The metaphor of the puppet and its puppeteer emerges once again in the comparison with *bunraku* (文楽) theatre, only this time to exemplify the ability of these dolls to deliver deep emotional tension. Prince's argument on the relevance of animation to the creation of liveness in synthetic characters is supported in similar accounts provided by the artists that worked on *Final Fantasy*:

> Andy Jones, the animation director of *Final Fantasy*, has said, "My biggest fear … was that if the characters looked perfectly real on still frames, we'd be in even more trouble–because the more real it looked, the more perfect the animation had to be. Because if it isn't perfect, it looks a bit like you're puppeteering dead people. They look like zombies, because they don't have that spark of life, that soul."[449]

In spite of increasing the characters' liveness, the enhancement of visual cues and of the overall technical quality of the graphics highlights the dissimilarities and disharmonic elements between the simulation and its referent in the physical world. The metaphor is developed further by the description of the puppets as either dead or alive. According to this vision, digital characters must possess a life of their own, before the interaction of the player. In this perspective, the impression of 'puppeteering dead people' is a consequence of the extremely high detail of the

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[448] Stephen Prince, op. cit., 2012, p. 122.
[449] Interview to Andy Jones (animation director for *Final Fantasy: The Spirit Within*), quoted in Shilo T. McClean, op. cit., p. 100.

models that lack life in them. This is especially evident in facial animation, particularly in cases such as *Final Fantasy* in which the photorealistic representation of characters is not matched with an equally realistic movement of the muscles and animation of their faces: ‘Faces are quite different because the data involves subtle and intricate surface deformations’.[450]

[redacted]

Figure 13 - Aaron Staton, protagonist of *L.A. Noire* as Cole Phelps, during a MotionScan session.

The development of technologies such as *performance capture*, specifically dedicated to the acquisition of facial information during the acting sessions, once again brings back the human element merging acting and animation in a single digital performance. This technique is now adopted also in the video game industry. Titles such as *Beyond: Two Souls* heavily rely on the performances of the actors as a central aspect to the game. In these cases, the presence of the actor goes beyond the performance of movement, also including his/her physical features that are scanned and reproduced in the digital environment, not only to provide a higher level of consistency between the performance and its interpreter, but also to exploit the image of the actor in order to market the product. The movements and the expressions reproduced on the digital models match the likenesses of the actors, supposedly enhancing the expressivity of the performance. A variation to this technique, called

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[450] Stephen Prince, op. cit., 2012, p. 123.

MotionScan,[451] was adopted in *L.A. Noire* (Figure 13) for which not only the initial model of the actor's face, but the entire performance is recorded by a system of cameras around the actors that allow the rendering of a digital animation simultaneous to its acquisition, delivering the performance at the same time on the physical and the virtual stage.[452] Most importantly, the actor's performance becomes an integral part of the gameplay as the player is required to "read" the facial tics of the characters. In fact, the noir setting of the game is reflected in a structure that requires the player to investigate crimes and interrogate suspects. During the interrogation, the player is granted the opportunity to challenge the answers provided by the characters, believing their statements or accusing them of lying to eventually incriminate them. The decision is taken by the player based on the clues collected and on the "performance" of the characters under interrogation. For this reason, the introduction of a detailed model of the actor's face and an accurate representation of his/her performance are a fundamental part of the game and its mechanics. In this sense, the digital enhancement becomes a prosthetic layer, underneath which the performance is still partially delivered by the actor:

> Few observers would deny that an actors performs a character when

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[451] MotionScan was developed by the Australian company Depth Analysis in 2011, which deploys '32 high resolution video cameras arranged as pairs to capture an actor's face during a live performance. The actor sits in a chair where the cameras are arrayed all around them. The actor has access to the director and reference videos of other actors to play against via a series of monitors placed within the rig. These monitors can be changed to match different eyelines that the performer may need to match'. Generally, the acting data collected with the motion capture is attached to the digital character modelled by the animator or, alternatively, the model of the actor is initially digitalised separating in two stages the reproduction of the actor's likeness and the addition of the performance. MotionScan technology reduces the gap between acting and the final performance of the digital character by constantly matching the image of the actor to its performance. In *L.A. Noire*, MotionScan was used in combination with motion capture. The first one was used in order to create a digital replica in close up of the actor's performance, the second was used to create an animation model of the actor's body during the action on set. Cf. 'Capture', in Depth Analysis official website, MotionScan. Retrieved from http://depthanalysis.com/motionscan/capture/ (accessed on 04/04/2014).

[452] Cf. Rockstar Games (user ID), 'L.A. Noire: "The Technology Behind Performance"', in *YouTube* (16/12/2010). Retrieved from https://www.youtube.com/watch?v=q2EG5J05048 (accessed on 04/04/2014).

> wearing a costume or a mask or elaborate prosthetic makeup. No one says that the mask replaced the actor. Digital extensions of these traditional tools do not undermine the actor's craft, although they can make the boundaries between live performance and animation harder to discern and therefore more elusive.[453]

Acting for motion capture and performance capture does not only reintroduce the physical actor within the digital scene, but it also results in a liberating experience for the actor, who is able to perform free from the traditional practical constraints of film production (Figure 14): 'As numerous actors have stated, mocap can be a very liberating method of working, enabling performance in real time unlike the fragmented mode of performing that is traditional in live-action film production'.[454]

[redacted]

Ellen Page during a motion capture and performance capture session for *Beyond: Two Souls.*

Ellen Page and Willem Defoe play parallel scenes in the performance capture of *Beyond: Two Souls.*

Figure 14 - *Beyond: Two Souls*

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[453] Stephen Prince, op. cit., 2012, p. 143.

[454] Ibidem, p. 142.

In these cases, digital performance is associated with a more theatrical conception of acting, in which the continuity of action allows the actor more control over the performance than the director and editor.

> […] Serkis asserted that mocap allows acting to "retain its purity." The absence of costume, set and makeup on the mocap stage requires "pure, truthful acting" and offers in return an infinite range of characters that can be mapped onto an actor's performance. It is acting for the twenty-first century, he maintains, and yet it "feels strangely close to the older acting arenas of theater, puppetry and plain old sitting around a campfire telling stories." Digital tools look back as well as forward; they embrace tradition while configuring new possibilities. […] Rather than foreclosing on the contributions that live actors make to cinema, digital effects provide arenas in which actors may continue to furnish the human presence so vital to the medium.[455]

This perspective is aligned with that of actors involved in video game production, some of whom have confirmed not only their enthusiasm for the interactive possibility offered by the medium,[456] but especially for the necessity to bring acting to its most 'bare and essential'[457] elements, requiring an act of 'pure imagination'.[458]

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[455] Stephen Prince, op. cit., 2012, p. 144.

[456] Willem Defoe describes the challenges imposed by the medium specificity, namely the player's interaction, that require the actor to develop parallel performances according to the events triggered by the user. 'PS3 BEYOND: Two Souls, Willem Dafoe interview'. Retrieved from http://beyond.eu.playstation.com/en_GB/home (accessed on 04/04/2014).

[457] Interview with Willem Defoe. Cf. PlayStation (user ID), 'The Making of Beyond: Two Souls. Capturing the Performance', in *YouTube* (23/07/2013) Retrieved from http://www.youtube.com/watch?v=5DwHjNenAmw (accessed on 03/04/2014).

Due to the technical restrictions imposed by the cameras that need to capture the position of the sensors on the actor's body from every angle, the motion capture requires the use of simple props (no metallic or shiny objects) made, for example, of plastic, wood or paper. For this reason, the lack of detailed props and costumes on set is proportional to the freedom granted to the actor's interpretation and the possibility to experiment with it. Kadeem Hardison, playing the role of Cole Freeman in *Beyond: Two Souls*, describes the process almost as a make- believe game: 'Literally it's like being a 7 year old, with your best friend, and you pretend that the world is gonna end and the bad guys are coming and we have to jump from couch to couch and avoid the lava'[459]. A similar concept is recalled by Nolan North (Nathan Drake in *Uncharted*) who suggests the freedom granted by motion capture by stating that 'Some of the best acting is just kids that play'[460].

[redacted]

Figure 15 - Musical performance during a motion capture session for *The Last of Us*.

In a "making of" video for the release of *The Last of Us* (Figure 15), the creative director Neil Druckmann illustrates one of the alternative endings created during the

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[458] Interview with Ellen Page. Cf. PlayStation (user ID), 'The Making of Beyond: Two Souls. Capturing the Performance', in *YouTube* (23/07/2013) Retrieved from http://www.youtube.com/watch?v=5DwHjNenAmw (accessed on 03/04/2014).

[459] Interview with Kadeem Hardison. Cf. PlayStation (user ID), 'The Making of Beyond: Two Souls. Capturing the Performance', in *YouTube* (23/07/2013) Retrieved from http://www.youtube.com/watch?v=5DwHjNenAmw (accessed on 03/04/2014).

[460] Interview with Nolan North. Cf. sonyplaystation (user ID), 'Uncharted 3 Behind the Scenes: Motion Capture', in *YouTube* (26/10/2011). Retrieved from https://www.youtube.com/watch?v=cnxZP2UtRME (accessed on 26/10/2011).

production of the game. The video shows the level of freedom and creativity granted by the motion capture tools due to the separation between the stage performance and the digital representation. In order to create a higher level of tension in the scene, needed for the final act of the game, the director asks one of the actors to improvise and play the scene by singing without informing the other members of the cast. The cast follows the lead of the singing member and the scene suddenly acquires a dramatic flavour characteristic of opera.[461] The deployment of motion capture techniques also allows the application of the actors' movements to the digital models, without involving their face and voices in this process. In the resulting digital scene, the drama conveyed by the theatrical interpretation is visible in the gestures and the body movements, and the materials could be edited with facial animation and voice acting that normalise the scene according to the tone of the game. Overall, the potential of motion capture lies in the possibility to further manipulate and stratify the performative sign, not de-humanising it but instead enhancing its traits and characteristics. Steve Olsen (lead responsible for motion capture for *Beyond: Two Souls*) describes the importance of motion capture for the production of interactive fictions as 'a great mix of 'technology and talent',[462] stressing the relevance of the human performance combined with the technology. Nonetheless, animation and human captured performance are entangled in a process of constant negotiation, according to the needs of each product and to the vision of the artists behind it. For example, Naughty Dog (developer for Sony of some of the most successful titles of

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[461] Cf. PlayStation (user ID), 'The Last of Us - Performance Capture Video – Gamescom 2012', in *YouTube* (15/08/2012). Retrieved from https://www.youtube.com/watch?v=ODxqtwkdegU (accessed 06/04/2014).

[462] Interview with Steve Olsen. Cf. PlayStation (user ID), 'The Making of Beyond: Two Souls. Capturing the Performance', in *YouTube* (23/07/2013) Retrieved from http://www.youtube.com/watch?v=5DwHjNenAmw (accessed on 03/04/2014).

the past console generation)[463] used motion capture for the characters' bodies but has relied on animation for facial expressions.[464] The technological limitations require a negotiation between motion capture and keyframe animation, blending the two together in order to obtain the best result, compromising between the accuracy of the movements reproduced with motion capture and the flexibility of editing granted by keyframe animation.[465] In order to reproduce high-quality keyframe animation consistent with the performance of the actors, the team deployed HD recordings of the motion capture sessions. The recordings were later used in order to provide the animators with an accurate model of the actors' expressions to use as a base for the keyframe animation. On the one hand, motion capture offers the possibility to faithfully reproduce the entire performance of the actors conveying its details and matching the visual and vocal acting. On the other hand, keyframe animation allows modifying and tailoring the animation in a flexible way, building specific gestures and expressions that can bring a specific tone to the scene. Through keyframe animation it is possible to caricature and exaggerate the gestures of the characters, amplifying their emotional appeal in order to cross the uncanny valley with a less realistic and more pantomimic style. In cinema and even more so in video games, where the technological constraints are more relevant for they affect not only the graphics but the entire gameplay (e.g. AI, physics), animation is fundamental to providing the synthetic world and the characters in it with liveness. In animation, the

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[463] Naughty Dog developed the series *Uncharted* and, more recently, *The Last of Us*, one of the most compelling exaples of cinematic video game.

[464] For *The Last of Us*, despite no deploying performance capture for the facial animation, the team mostly used the audio recorded during the motion capture sessions for the dialogues in the game. Cf. Interview with Phil Kovats (audio lead for *The Last of Us*). Game Informer (user ID), 'Performance Capture in The Last of Us', in *YouTube* (21/03/2012). Retrieved from https://www.youtube.com/watch?v=V8xagRubU4w (accessed on 06/04/2014).

[465] Cf. Jeremy Yates and Judd Simantov, 'Uncharted Animation: An In-depth Look at the Character Animation Workflow and Pipeline', Slideshow document. Retrieved from http://www.naughtydog.com/docs/Naughty-Dog-GDC08-UNCHARTED-Animation-Workflow.pdf (accessed on 07/04/2014).

solution to the “uncanny valley” issue does not depend so much on reaching a certain technological quality and photorealism threshold, but rather on finding a balance between the detail provided to the models and the coherence and liveness of their movements. Finding the balance between the resources dedicated to the graphics and those designated to the animation is one of the main concerns also for the next console generation: ‘Focusing on graphics only would be a huge mistake. You start to have super great graphics, characters look really good and you end up uncharted in the uncanny valley, but you don't have animation at the same quality level ’.[466]

In video games, animation also negotiates the separation between the player and the player-character. Regardless of its dependency on the player, the player-character is granted a degree of autonomous life that emerges in the way he moves and reacts to the world. This is best displayed during what Alexander Galloway defines as *ambience acts*[467], whenever the game runs with no interaction from the player. In these moments, the player-character assumes an “idle” state, standing still and waiting for the player to provide an input. One of the most notable early examples is provided in *Sonic the Hedgehog*[468], in which Sonic impatiently taps his foot and looks directly at the camera, breaking the fourth wall by waiting for the player to take the controller and start playing again. This tendency has been inverted in recent games, in which the attention of the player-character points to the game world rather than outside. Games such as *Tomb Raider*, *Dead Space*, *Uncharted* and *Mass Effect* use idle animation to connect the character to the virtual environment, to provide it

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[466] Interview with Julien Merceron. James Brightman, ‘Square Enix on Next-Gen and Why The Uncanny Valley Will "Always" Exist’, in *Gamesindustry International*, (09 July 2012). Retrieved from http://www.gamesindustry.biz/articles/2012-07-09-square-enix-on-next-gen-and-why-the-uncanny-valley-will-always-exist (visited 20/02/2014).

[467] For a detailed discussion of ambience acts see Chapter 6. Cf. Alexander R. Galloway, op. cit. 2006, p. 10.

[468] *Sonic the Hedgehog*, Sonic Team, 1991, Japan.

with an impression of liveness showing its reactions and its awareness of the context. For example, in *Tomb Raider*, Lara suspiciously looks around and checks her wounds; in *Dead Space*, Isaac Clarke aims his gun wary of the dangers that surround him; while in *Mass Effect* Shepard stretches his/her neck or is asked questions by accompanying characters. In *Uncharted 3: Drake's Deception*, Drake autonomously crouches to catch his breath, dusts the dirt off his face and, with a gun in his hands, checks the weapon and puts it back in the holster. But the context sensitive animation goes further in representing the independence of the character so that, for example, he covers his face with his hands when close to flames,[469] and crouches under the enemies' fire trying to avoid the bullets.[470] The construction of the avatar as a player-character interpreted/played by the player, rather than an empty shell for the player to project him/herself, points at the separation between the player and its double. This is exemplified in FPS games such as *Far Cry 3* in which Jason (the player-character) puts out his hands when falling from a certain height and performs a dive when jumping in the water; as well as in TPSs such as *Uncharted 3: Drake's Deception*, in which Drake pushes his hands against walls he runs in close proximity to; or in *Grand Theft Auto V*, where the player-character will recognise if leaping over a fence or a car, accordingly performing a jump or sliding on top of the surface. In all these cases, the characters show a set of actions that indicates their adaptation to the environment, and capacity for initiative beyond the player's commands. There are two kinds of context sensitive animation: *surface* animations and *deep* animations. Surface animations are used to show the avatar's awareness of the environment, its ability to inhabit the virtual world by understanding its rules and limits. Deep animations signal instead elements of the gameplay. For example in *Tomb Raider*,

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[469] *Uncharted 3: Drake's Deception*, 'Chapter 7: Stay in the Light'.
[470] *Uncharted 3: Drake's Deception*, 'Chapter 15: Sink or Swim'.

when Lara approaches an area with enemies (if undetected) she automatically crouches in order to signal to the player the stealth mechanic involved in that section. Again, context sensitive animations are fundamental in *Assassin's Creed*. One of the core elements of the game is the exploration of vast areas and the traversal mechanics that allow the player-character to climb most surfaces and buildings. Other games, such as *Gears of War*, deploy a context sensitive cover system, which reads the position of the character within the environment and its proximity to an element that can be used as a cover from enemies' sight and fire. A classic example of context sensitive animation is the passage of character from land to water, where the character is required to swim in order to maintain the necessary verisimilitude and coherence. Nevertheless, current video games feature also surface animations, exceeding the needs of the gameplay, in order to avoid creating the impression of a gap between detailed environments and lifeless characters.

In their 2006 work reflecting on the relationship between cinema and video games, Geoff King and Tanya Krzywynska identified a lack of depth in the characterisation of the digital double, which they considered to be –of necessity– empty vessels for players to project themselves into: 'Characters tend to be relatively undeveloped, as suggested in the previous chapter, to function as constructs into which the player can step rather than overtly determined figures in their own right'.[471] This characterisation of video game characters as empty vessels is no longer adequate. Instead, players are frequently aware of the distance between them and the player-character; they are aware of manipulating and entity with a different identity from their own, favoured also through the development of public personas that further

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[471] Geoff King and Tanya Krzywinska, op. cit., 2006, p. 108.

stratify the semiotic chain connecting virtual acting and playing. These characters live in an immaterial dimension. This allowed them to trespass the virtual threshold to experience a form of stardom, individuals with lives behind their characters participating in cultural discourses. The video game industry features scandals like any other in the entertainment business. Generally these concerns are tied to issues of morality, condemning the video game for its contents rather than its structure, often disregarding the role of the player and his/her critical choice within it. From the allegations of racism suffered by *Resident Evil 5*, to the accusation of misogyny and overtly violent imagery levelled at the *Grand Theft Auto* franchise since the release of its third episode, video games have been the object of close press scrutiny, in search of controversy and moral outrage stories. For example, recently (2012) Crystal Dynamics has been attacked for the controversial depiction of sexual assault against the protagonist of the most recent instalment in the *Tomb Raider* series. The new *Tomb Raider*, marketed as a reboot of the franchise, features a more vulnerable and an allegedly more human Lara Croft. According to the developers, the new Lara needed to be an incomplete and embryonic hero, to show the suffering that forged the action-hero we have seen in the previous games.

> The new Lara Croft isn't just less battle-hardened; she's less voluptuous. Gone are her ridiculous proportions and skimpy clothing. This Lara feels more human, more real. That's intentional, Rosenberg says. […] In the new *Tomb Raider*, Lara Croft will suffer. Her best friend will be kidnapped. She'll get taken prisoner by island scavengers. And then, Rosenberg says, those scavengers will try to rape her.[472]

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[472] Jason Schreier, 'You'll "Want to Protect" The New, Less Curvy Lara Croft' (interview with Ron Rosenberg, executive producer of *Tomb Raider*), in *Kotaku.com* (6/11/2012). Retrieved from http://kotaku.com/5917400/youll-want-to-protect-the-new-less-curvy-lara-croft (Accessed on

The fact that Lara Croft could be a victim of sexual assault (or rape according to some sources), generated an immediate and strong reaction from the players' community and from the specialised press, leading the general press to take interest in the case and to rehash the debate on the influence of Lara Croft as both a feminist icon and lifeless fetish object for renewed patriarchal tropes.[473]

> The inclusion of the attempted rape scene raises some difficult questions. If the scene is playable, what exactly happens should the player fail? If it is not, why show it at all? Lara is already going through a lot – shipwreck, major injury, a friend's kidnapping, the threat of death – and adding sexual assault to the mix might just be over-egging the pudding. […] That doesn't mean no storyteller or video game should ever tackle rape – of course they should, where a story demands it – but if the only reason to include sexual violence is to emphasise a woman's vulnerability or a man's evilness, then it's fair to question why a threat of murder is not enough. […] Players aren't expected to want to protect Nathan Drake in Uncharted, or John Marston in Red Dead Redemption, or Max Payne – so why Lara? […] I'm hoping, but not expecting, that this is a savage case of mis-marketing and that Crystal Dynamics has made a well-written, sensitively

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05/03/2013).

[473] In an article published on the Telegraph, Louisa Peacock criticises the feminine features of the new Lara for downgrading her status of super-hero arguing that the character should be able to transcend her gender-bound identity and convey the idea of heroism beyond genders: 'In many ways, back in those days, Lara Croft's gender did not come into it. Yes she looked like a ridiculous schoolboy dream sex symbol – nobody naturally has a waistline that thin with boobs that big – but her physical attributes aside, her "character", if you can call it that, was just as convincing, just as worthy, as the male shooters and fighters dominating other video games.' The author is concerned with Lara being so fragile as to discourage the identification of the player with the character and rather build an empathic bond with it: 'Lara's newfound vulnerability does make us care about her more than the old Lara. She is more human and in turn, you do want to protect her. But then for me, this sits uneasily with the very notion of 'playing Lara Croft''. Louisa Peacock, 'Tomb Raider: I don't need reminding that Lara Croft is a woman', in *The Telegraph* (23/02/2013). Retrieved from http://www.telegraph.co.uk/women/womens-life/9893950/Lara-Croft-in-Tomb-Raider-I-dont-need-reminding-that-shes-a-woman.html (Accessed on 13/03/2013).

> done story, that doesn't turn an iconic female character into a helpless wreck in the name of an edgy reboot.[474]

The game was officially released on the 5th of March 2013, almost 8 months after the fallout with the press. In fact, the case emerged out of a preview piece covered by the magazine *Kotaku* in which the journalist interviewed a member of the Crystal Dynamics team. As clarified by the team following the media scandal, the game didn't contain any sexual violence, let alone a rape scene:

> In this particular section, while there is a threatening undertone in the sequence and surrounding drama, it never goes any further than the scenes that we have already shown publicly. Sexual assault of any kind is categorically not a theme that we cover in this game.[475]

The controversy was ultimately based on speculations due to the misinterpretation of an interview released in a promotional context. Nevertheless, its relevance has been nothing less than real, bringing the game, and especially its protagonist, under the spotlight. Whether this was the intended result of a controversial marketing campaign, as insinuated by Mary Hamilton on *The Guardian*,[476] or a genuine misinterpretation by the journalist covering the story, the character of Lara Croft

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[474] Mary Hamilton, 'Does Tomb Raider's Lara Croft really have to be a survivor of a rape attempt?', in *TheGuardian.com* (13/07/2012). Retrieved from http://www.theguardian.com/commentisfree/2012/jun/13/tomb-raider-lara-croft-rape-attempt (Accessed on 05/03/2013).

[475] Fred Dutton, 'Tomb Raider studio addresses Lara controversy' (interview to Darrel Gallagher, studio head of *Tomb Raider*), in *Eurogamer.net* (13/06/2012). Retrieved from http://www.eurogamer.net/articles/2012-06-13-tomb-raider-studio-addresses-lara-controversy (Accessed on 05/03/2013).

[476] Mary Hamilton, 'Does Tomb Raider's Lara Croft really have to be a survivor of a rape attempt?', in *TheGuardian.com* (13/07/2012). Retrieved from http://www.theguardian.com/commentisfree/2012/jun/13/tomb-raider-lara-croft-rape-attempt (Accessed on 05/03/2013).

trespassed the threshold of the videoludic frame, disseminating her image via a multitude of media that amplified the relevance of the forthcoming game. This is not the only example of real-world speculations concerning the image of Lara Croft. Since her first appearance in 1996, Lara's physical and mental attributes have been obsessively pored over, become the subject of public concern and campaigns by protective fans, and also used, of course, as marketing weapons: 'Her body is excessively feminine—her breasts are massive and very pert, her waist is tiny, her hips are rounded and she wears extremely tight clothing'[477]. Commenting on an interview with Toby Gard (creator of Lara), Johnny Davis states: 'the evil corporation sexed-up his sister and prostituted her around the world. First they made her wear skimpy clothes, he says. Then they gave her breast enlargements. Next, they forced her to become cheap titillation for teenage boys'[478]. The body and appearance of Lara Croft became a central element of debate surrounding the release of each new title. Each time, the press has speculated and presented hypotheses on her new features, her outfit and hair-cut, profiling a biography of the character beyond her videoludic adventures in her personal and social life. Like a real star, details on the life of Lara Croft have become a source of considerable speculation, surrounded by mystery due to multiple versions (each time designed for a new game or by a new company) feeding the appetite of fans for more information about the persona beyond the character. Lucy Fischer and Marcia Landy describe the importance of scandals in the construction of the film star's image:

> The biographical minutia of the star's life must inevitably entertain banal and quotidian material, but *scandal* can liven up the work, and this

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[477] Maja Mikula, 'Gender and Videogames: the political valency of Lara Croft', in *Continuum: Journal of Media & Cultural Studies*, v. 17 (1), 2003, [pp. 79–87] p. 79.

[478] Johnny Davis, 'Toby Gard: Let the battle begin', in *The Independent* (18/04/2004). Retrieved from http://www.independent.co.uk/news/science/toby-gard-let-the-battle-begin-6171048.html (accessed 17/03/2014).

> element has served as one of the guilty pleasures of fandom.[479]

According to Davis's reconstruction of her history: 'Lara was created by designer Toby Gard, who admitted in an interview that her large breasts occurred by accident when his mouse slipped, expanding them 150 percent instead of just 50 percent'.[480] Then, after Gard was forced to leave the project, theories on the marketing-driven manipulation of Lara's image started to emerge igniting a battle of interviews focused on a "voiceless" character. As a consequence, the internet has for some time been populated with a considerable profusion of posts,[481] videos, threads[482] on Lara's persona, on what she is, what she is not and what she should be.[483] For example, some videos retrace the evolution of her breasts[484] and the IGN website even hosted a survey on this topic.[485] This phenomenon was recently revamped during the release of *Tomb Raider: Definitive Edition*,[486] for which Lara's face has been "updated" to make use of the graphic potential of the new consoles (PlayStation

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[479] Lucy Fischer and Marcia Landy, *Stars, the Film Reader*, New York: Routledge, 2004, p. 4.

[480] Alison McMahan, 'Video Game Stars: Lara Croft', in Mark P. Wolf (ed.), *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut: Greenwood Press, 2008, [pp. 183–185]. p. 183.

[481] Cf. Rus McLaughlin, 'IGN Presents: The History of Tomb Raider', in *IGN.uk* (29/02/2008). Retrieved from http://uk.ign.com/articles/2008/03/01/ign-presents-the-history-of-tomb-raider (accessed on 17/03/2014).

[482] Some articles point at the possibility of changing or manipulating Lara's outfit in order to make it appear more or less "sexy". Cf. Evan Narcisse, 'NSFW: *Tomb Raider* Glitch Make Lara Croft Look Practically Topless', in *Kotaku* (22/03/2013). Retrieved from http://kotaku.com/5991855/nsfw-tomb-raider-glitch-makes-lara-croft-look-practically-topless (accessed 17/03/2014).

[483] The peculiar melange of characteristics that led Lara to fame –the mix of sensual femininity and androgynous aggressiveness– led the fans to extensively debate her sexuality, never covered in the video game chapters (against the more conventional and clear model offered in the cinematic adaptations, in which Lara's lovers feature among her allies and enemies): '[…] the participants in Tomb Raider fan forums, who speculate on her 'gayness', 'straightness', relationships, attitudes to marriage, maternal instincts'. Cf. Maja Mikula, op. cit., 2003, p. 84.

[484] Ryansitouch (user ID), 'A History of Lara Croft's Boobs', in *YouTube.com* (19/03/2012). Retrieved from http://www.youtube.com/watch?v=IBR1iQxu2Xg (Accessed on 05/03/2013).

[485] AGNT009 (user ID), 'Do you approve of Lara Croft's Breast Reduction?', in *IGN.com* (03/06/2011). Retrieved from http://www.ign.com/boards/threads/do-you-approve-of-lara-crofts-breast-reduction.202848178/ (accessed on 17/03/2014).

[486] *Tomb Raider: Definitive Edition*, Crystal Dynamics, 2014, USA.

4 and Xbox One).[487]

According to Richard Dyer, stars are ‘a form of capital possessed by studios’[488], they are ‘a guarantee, or a promise, against loss on investment and even of profit on it. […] used to sell films to organise the market’.[489] Since their birth, video game characters have been a core element in marketing strategies. At the beginning it was Pac-man, considered the first iconic video game character, the first one featuring anthropomorphic characteristics both in its graphic and gaming design.[490] Just like their filmic counterparts, Super Mario and Sonic in the 1980s, Lara Croft, Solid Snake, Sam Fisher, Desmond, and Gordon Freeman more recently, have all been functional assets in facilitating the passage to mass production, exploited not only as the *fil rouge* in the narrations that justify the production of numerous chapters in same franchise, but also as recognisable icons for the platforms that they populate.[491] The creation of iconic characters that take on a life beyond their diegetic world to serve the marketing strategies of the companies that creates and “distributes” them is reminiscent of Charles Musser’s reflection on the introduction of exclusive contracts

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[487] Cf. Leah B. Jackson, ‘How Much Prettier is Tomb Raider: Definitive’, in *IGN.uk* (06/01/2014). Retrieved from http://uk.ign.com/articles/2014/01/06/how-much-prettier-is-tomb-raider-definitive-edition (accessed 18/03/2014). See also David Bierton, ‘Next-Gen Face-Off: Tomb Raider Definitive Edition’, in *Eurogamer.net* (29/01/2014). Retrieved from http://uk.ign.com/articles/2014/01/06/how-much-prettier-is-tomb-raider-definitive-edition (accessed on 18/03/2014).

[488] Richard Dyer, *Stars*, London: British Film Institute, 1998 [1979], p. 10.

[489] Ibidem, p. 11.

[490] Pac-man is arguably the first character to possess human features. Previous games vessels of identification either showed abstract characteristics, such as in *Pong*, or mechanical vehicles, such as *Space Invaders*. Moreover, Pac-man is the first character to trespass the borders of the video game texts to be used in advertising campaigns and merchandise. Cf. Mark J. P. Wolf, ‘Video Game Stars: Pac-Man’, in Mark P. Wolf (ed.), *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut: Greenwood Press, 2008c, [pp. 73–74] p. 74.

[491] Video game stars are celebrated in their trans-textual and extra-textual nature through specific titles such as *Super Smash Bros: Brawl* (Sora Ltd. 2008, Japan) and *PlayStation All-Stars: Battle Royale* (SuperBot Entertainment, 2012, USA), in which the iconic characters of one brand or company (Nintendo in the first case, Sony in the second one) compete against each other in a fighting game. Clearly, the game’s appeal lies in the celebration of the players’ favourite characters, that are granted the status of stars allowing them to transcend their original context, coming together in a different shared diegetic world.

with actors in the early American film industry: 'Efficient production required producers to create permanent stock companies of actors'.[492] Video game stars work as the centre of the narrative universe expanded with each chapter, creating semi-coherent macro-narratives and inspiring loyalty from the consumer base that becomes accustomed to the characters and their worlds. In addition, the choice of maintaining the same characters (and consequently of maintaining the same narrative universe) informs the development of the gameplay, allowing the designers to work on templates and structures that are kept similar across all the episodes in a series, saving money on both the creative and the technical budgets. The same graphical engines are often adapted for new chapters, avoiding the necessity to build them *ex novo*. Franchises such as *Assasin's Creed*, and *Tomb Raider* before, capitalised on the initial investments by subsequently releasing extremely similar re-iterations. This strategy is partially facilitated by the deployment of a star-system, the promotion of the characters and their personas which helps to keep the audience interested in the product and its development. For example, Desmond, protagonist of the *Assassin's Creed* saga, uses a virtual machine to re-live the memories of his ancestors, which are made co-protagonists of each new chapter, allowing the development of new situations while maintaining intact the narrative core.[493]

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[492] Charles Musser, 'The Changing Status of the Actor', in Pamela Robertson Wojck (ed.), *Movie Acting, The Film Reader*, New York: Routledge, 2004, [pp. 51–58] p. 52.

[493] Desmond belongs to a lineage of assassins caught in a never-ending fight against the Templars. Through this setting, the game spreads the adventure of Desmond across multiple historical moments and locations. At the same time, the gameplay dynamics remain similar and consistent across each chapter, introducing little variations in order to provide some novelty. The character of Desmond and his assassin "others" are iconographically marketed as one, creating a star –that of the Assassin– that is one and many throughout the multiple chapters of the series. The star is used not only to engender audience loyalty to the franchise, but also to justify the similarities between the titles of the series. This is a consequence of the exponentially increased costs of production in the video game industry. Triple AAA titles are facing a crisis due to the excessive costs involved in their production and the industry is forced to find ways to overcome this problem by creating episodic products that can exploit similar contents on multiple titles, maximising returns on the high expenses for the technical development.

As Alison McMahan has observed, Lara Croft represents a milestone in the development of video game stars: 'she is not a construct built up around a real person but a star construct built up over a digital character who lets different people, from Rhona Mitra to Angelina Jolie, inhabit her'.[494] In fact, Lara represents a uniquely successful experiment at building a star persona out of a video game character outside the original ludic frame or tie-in merchandising. Despite her virtual nature, Lara Croft has featured on the cover of numerous magazines[495] and even featured as a guest in the music videos of popular rock bands such as U2[496]. Indeed, the crafting of Lara Croft is not dissimilar to that of flesh-and-blood stars, with fictional information purposefully created to incarnate an 'ideology'[497] (a life style, values, modernity, tradition),[498] which is also supported by the texts in which they feature: '[…] it is assumed that we are dealing with the stars in terms of their signification, not with them as real people […] we never know them directly as real people, only as they are to be found in media texts'.[499] After featuring in commercials for cars,[500]

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[494] Alison McMahan, op. cit., 2008, p. 184.

[495] Cf. Miranda Sawyer, 'Lara hit in the Face', in *The Face*, v. 3 (5) (June, 1997). Retrieved from http://web.archive.org/web/20070522021325/http://www.cubeit.com/ctimes/news0007b.htm (accessed 17/03/2014).

[496] 'Lara's ironic and ultimately subversive aspects have to date been discerned and put to good use only in the music scene, by the German punk rock band Die Ärzte and the Irish pop band U2.' Cf. Maja Mikula, op. cit., 2003, p. 86.

[497] The term ideology is intended in the definition borrowed from cultural studies and provided by Dyer: 'Ideology is the set of ideas and representations in which people collectively make sense of the world and the society in which they live. […] they are the means by which knowledge is made out of those circumstances'. Richard Dyer, op. cit., 1998, p. 2.

[498] According to Maja Mikula: 'The values of an idealized world of security and tradition are brought in by means of Lara's constructed biography, well known to the faithful, which was conspicuously created in response to public demand only after the first game was finished. Lara Croft is a member of the British aristocracy, a graduate of Gordonstoun, Prince Charles's alma mater, with a mission to "[prepare] students for a full and active role as international citizens in a changing world". Following a plane crash in the Himalayas, where she is the only survivor and struggles for two weeks to stay alive in the wilderness, Lara renounces the safety of her former modus vivendi in favour of a life of uncertainty and adventure. Despite this rupture, she remains branded by the world she originates from, through her polished British accent, tea-drinking habit and —when considered appropriate— through her complete mastery of what may be considered a 'refined' social behaviour.' Maja Mikula, op. cit., 2003, [pp. 79–87] p. 83.

[499] Richard Dyer, *Stars*, op. cit., 1998, p. 2.

[500] Lara was protagonist of a Seat campaign, featuring some commercials produced in CGI in which she escapes her enemies using the vehicles provided by the Spanish company. Cf. TombRaiderGaming, 'Lara Croft: Seat Commercials (Seat Trilogy)', in *YouTube* (25/03/2009).

telephone networks[501] and even credit cards,[502] the release of two films starring Angelina Jolie broadened the popularity of the character even further, multiplying its already fragmented identity. According to Maja Mikula: ‘Lara’s appearance in advertising and film has by necessity ‘betrayed’ some of the heroine’s virtual possibilities by fixing her according to the imperatives of the medium and the genre. The same is true for her trans-contextualisations in comic strip, music and narrative fiction.’[503] Mikula identifies a disrupting force in the postmodern fragmentation of Lara’s identity. This notion is tied to the definition of Lara Croft as a fictional character bound by coherence to her narrative world. On the contrary, the operation at work here is a subversive one, in which the persona of Lara Croft emerges through the fragments in order to surpass the character and allow the multiplication of her incarnations with their chronological, physical, behavioral idiosyncrasies. In relation to the sophistication of the star image, Dyer points towards the triangulation between the actors, their characters and their personas:

> This means that they serve to disguise the fact that they are just as much produced images, constructed personalities as ‘characters’ are. […] the roles and/or the performance of a star in a film were taken as revealing the personality of the star (which then was corroborated by the stories in the

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Retrieved from: http://www.youtube.com/watch?v=mfslfqn7AwI (Accessed on 13/05/2014).

[501] Here Lara, featuring a commercial for AT&T, sits in front of a fire sharing her relationship problems with an anonymous young man, merging the CGI character and the live-action shooting in a way that reflects the hybridity of Lara as a character and star. Cf. BaikerNoJaacket, ‘Lara Croft G4 Commercial’, in *YouTube* (n.f.). Retrieved from: http://www.youtube.com/watch?v=W-4HXqm4ugY (accessed on 13/03/2014).

[502] In a commercial for Visa, Lara Croft’s duality as avatar (virtual projection of the player) and character (fictional identity and persona) is stressed in the interplay between the live-action Lara Croft-like player and the virtual character in the game. The two worlds merge when the enemy from which Lara escapes in the game suddenly appears in the live-action world of the player. Cf. TombRaiderGaming (up. by), ‘Tomb Raider (VI): The Angel of Darkness (Visa Commercial)’, in *YouTube* (25/03/2009). Retrieved from: http://www.youtube.com/watch?v=Ag7zBdqp3IY (accessed on 13/03/2014).

[503] Maja Mikula, op. cit., 2003, p. 83.

magazines, etc.).[504]

By diversifying the video game character (the troubled adventurer) from the public persona (the iconic character featuring in commercials and music videos), different versions of Lara Croft can coexist, as she becomes a star embodying multiple roles. For Mikula, Lara is an ‘empty sign’ made as such in order to ‘appeal to an essentially unpredictable global market’ and ‘allow diverse, often contradictory inscriptions and interpretations.’[505] In fact, there is no “real” persona attached either to physical and virtual performers. Instead, Mikula’s considerations should not be limited to the digital world in which Lara Croft is born. All personas are constructed agglomerations of textual fragments, memes of information that impact upon the audience in different ways. Consequently, virtual personas can develop an extra-textual life just like physical ones, for they “become” real in the same way, through the dissemination of their textual fragments. Moreover, video games in this sense do not represent a anomaly. Albeit to a different degree, cartoon characters such as Mickey Mouse previously became celebrities by crossing their textual boundaries. On the other hand, the specificity of his textual sources (cartoons, comics, animation) and the characteristics of his persona (an anthropomorphic mouse designed to entertain children with comedy and morals) favoured a different kind of development, less exposed to controversy.

Recent developments in the video game industry have brought to the fore cultural events such as festivals and awards (shaped after the model of the film industry) that emphasise the importance of the circulation of the stars’ image in order to guarantee

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[504] Richard Dyer, op cit., 1998, p. 20.
[505] Maja Mikula, op. cit., 2003, p. 83.

the longevity of the franchises. For example, since 2003 SpikeTV has annually hosted the VGA (Video Games Awards), on which occasion the best games of the year are awarded in different categories. Among the categories, the 'Best Character of the Year' is assigned by the 'viewers' rather than by the 'council', providing another example of the importance of the relationship between the stars and their fans. Over the past few years, during this show some of these games' protagonists began to feature in videos that portray their reactions to the nomination and, eventually, to the award. For example, among the nominees of the 2013 edition there is Lara Croft with *Tomb Raider* (the reboot).[506] In this case, the video is edited with materials from the game that show Lara climbing a communication tower in order to reach the device on top of it. The video plays on the dissonance between the dramatic character of the scene in the game and its comic tone in context of the show.[507] These videos participate in the development of a persona outside the diegetic frame through which the character originally became familiar to the players.[508]

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[506] Cf. n.a., 'VGX 2013: Character of the Year Nominee - Lara Croft', in *Spike.com* (7/12/2013). Retrieved from http://www.spike.com/video-clips/mfic7e/vgx-vgx-2013-character-of-the-year-nominee-lara-croft (accessed on 20/03/2014).

[507] Lara, visibly tired after the climb, uses the device on top of the tower to call an unknown number. On the other side of the phone, a sleepy voice picks up answering the anxious questions of Lara who enquires about the deadline for submitting her candidacy for the award. The man, sleepy due to the time-zone difference, tells her that the nominations are automatic, pointing at the redundant effort of the heroine who then rejoices ignoring the awkwardness of the situation.

[508] Similar strategies have been adopted for the announcement of *Metal Gear Solid 4: Guns of the Patriots* at the E3 2005. A teaser trailer was presented in which the serious character of Solid Snake (the protagonist of the saga) is satirised. The video portrays Snake on the combat field, but a sense of estrangement is immediately suggested by the unfamiliar setting. The ruins of a village on a blank virtual stage with no pavements or horizon make immediately manifest the metacritical nature of the episode. Snake's hideout is promptly destroyed by a missile randomly fallen from the sky, leaving the hero exposed to the enemies' sight. The comic effect is emphasised by the soundtrack, the colour saturation, the grain and by proscenic perspective of the camera that frames Snake running from his enemy on the flat stage. The enemies show no interest in Snake and instead challenge him to a game of musical chairs. Each chair represents an available position in the team producing the new *Metal Gear Solid*, finally revealing the fully and acknowledged self-referential nature of the video, as Solid Snake becomes the double of Hideo Kojima (father of the saga). Hence, the video plays not only with the star persona of Snake, protagonist of the game, but also with Hideo Kojima, its creator and one of the most notorious game designers in the whole industry. After Kojima consolidates his place in the studio by killing all the competitors, Snake faces Raiden (co-protagonist of the second episode of the saga) to ensure his role. Snake gets hold of the "main character" chair that in the final shot displays the tag 'Solid Snake in' right before the credit title of MTG4. Cf. Playscope Trailers (user ID), 'Metal Gear Solid 4 Guns of the Patriots –

One of the main differences between cinema stars and videoludic ones is the degree of manipulation of the star's image assigned to the player, which advances problems related to their representation and the ideologies inscribed in it. As mentioned previously with reference to the number of commentaries on Lara's physical features, the player is heavily invested in the development of the persona. The double dynamics of sadism and masochism, individuated by Laura Mulvey in relation to the objectification of feminine representation in the cinema, reaches a new degree in the interactive environment offered by video games. While at the cinema 'pleasure in looking has been split between active/male and passive/female'[509] the question posed by Mikula in relation to video games brings this issue even further: 'is this target audience—the young men who take on the character of Lara in order to play—primarily being invited to take sexual pleasure from looking at her? Or to enjoy the pleasures of being her?'[510] In the second case, video games can provide a subversive potential, a critical tool against socially normative gender roles developed within the subversive framework of games.[511] In the former, the problems of crystallised stereotypes and reiterated patriarchal ideologies are passed on to the players, positioning Lara as 'the object of their "control" and "care", with her exaggerated sexuality subjected to their disciplining gaze'.[512] However, contrary to the scenario

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Teaser – E3 2005', in YouTube (2/01/2010). Retrieved from http://www.youtube.com/watch?v=zi2OClpQbHE (accessed on 24/03/3014).

[509] Laura Mulvey, 'Visual Pleasure and Narrative Cinema', in *Screen* n. 13 (3), 1975, [pp. 6–18], p. 11.

[510] Maja Mikula, op. cit., 2003, p. 80.

[511] According to Helen W. Kennedy: '[…] in this complex relationship between subject and object it could be argued that through having to play Tomb Raider as Lara, a male player is transgendered: the distinctions between the player and the game character are blurred. […] This new queer identity potentially subverts stable distinctions between identification and desire and also by extension the secure and heavily defended polarities of masculine and feminine subjectivity'. Cf. Helen W. Kennedy, 'Lara Croft: Feminist Icon or Cyberbimbo – On the Limits of Textual Analysis', in *Game Studies*, n. 2 (2), (December) 2002. Retrieved from http://www.gamestudies.org/0202/kennedy/ (accessed on 19/03/2014).

[512] Maja Mikula, op. cit., 2003, p. 81.

painted by Mulvey, in which ‘the male figure cannot bear the burden of sexual objectification. Man is reluctant to gaze at his exhibitionist like’,[513] Paul Smith complicates this issue by pointing at the ways in which nowadays: ‘instances of the erotic display of the male body are rife in contemporary film and media production, and can be shown to be geared to either (or both) male and female spectators in different contexts’.[514] Accordingly, video games display sexualised visions of both genders, almost exhibiting an ontological predisposition of the medium (especially prominent in games that adopt a third-person viewpoint) towards forms of voyeurism, as confirmed in an interview with the original designers of *Tomb Raider*:

> We wanted it to be a game where the player has more of an affinity for the character, and that’s where the third-person view came from, so that you could always see her. We wanted her to be as real a person as possible, so that people could really identify with the character […].[515]

In particular, titles such as *Tomb Raider* (games in which the third-person viewpoint emphasises the performance of the protagonists catalysing the attention on his/her body and movements) bring to the extreme some of the implications associated with the scopophilic gaze. According to Paul Smith, in action films the ‘objectifying passage is quickly followed by the standard routine of destruction’.[516] The routine of destruction is a fundamental aspect in the aesthetics of these video games, in which developers put a considerable amount of effort into portraying details of the “deterioration” of the body, displaying the consequence of player choices in the form

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[513] Laura Mulvey, op. cit., 1975, p. 12.

[514] Paul Smith, ‘Action Movie Hysteria, or Eastwood Bound’, in Lucy Fischer and Marcia Landy (ed.), *Stars, the Film Reader*, New York: Routledge, 2004, [pp. 43–56] p. 46.

[515] Alison McMahan, op. cit., 2008, p. 184.

[516] Paul Smith, op. cit., 2004, p. 48.

of scars wore by the player-character. Moreover, as previously mentioned, the player is encouraged to experiment with the avatar's body, compulsively challenging its possibilities and testing its destructibility. Also the representation of the violation of the body is generated according to hegemonic ideologies, for which the deaths of Lara are often sexually connoted by the penetration of her body with blades, sharp objects and spikes. The aim of this work is not to provide a feminist reading of *Tomb Raider*, but rather to point at the necessity to consider video game representation as a fundamental element of the text which would benefit from interpretations building on the corpus of knowledge developed in adjacent fields such as Film Studies. Studies on stardom, in fact, can provide useful tools of analysis in order to understand the stratified codes behind the rise of videoludic stars, surpassing apparently contradicting readings –such as Lara Croft's "one and many" paradox– and providing a better understanding of their cultural processes. Gender issues are not the only ideological problems posed by video game representation. What Kracauer has called 'typage'[517] representations are as common in video games as they are in cinema. Consequently, characters are often designed according to simplistic gender, racial, social and cultural stereotypes, contributing to the corroboration of hegemonic ideologies within this new media form: 'In its exemplary form, this general human type will exemplify moral or metaphysical principles, as an archetype or allegorical type. In its most insidious form, typing is exclusionary, as in the stereotype'.[518] Again, the supporting characters from *Tomb Raider* provide a clear example of this issue, as noted in reviews and critiques: 'The supporting cast is less developed, though. Lara herself is so well-realised that her friends and enemies feel

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[517] Siegfried Kracauer, 'Remarks on the Actor', in Pamela Robertson Wojck (ed.), *Movie Acting, The Film Reader*, New York: Routledge, 2004, [pp. 19–27] p. 23.

[518] Pamela Robertson Wojck, 'Typecasting', in Pamela Robertson Wojck (ed.), *Movie Acting, The Film Reader*, New York: Routledge, 2004, [pp. 169–189] p. 171.

two-dimensional by comparison.'[519] Lara's crew of survivors tries to provide the game with a multicultural flavour deploying a variety of characters with different backgrounds: a white American nerd, an 'angry black woman'[520] (Joslin Reyes), a Mauri (presumably) cook (Jonah Maiava), a Scottish sailor (Grim Grimaldi). These characters are all victims of a very simplistic attempt to broaden the representational palette of the game. Stuck in their exaggerated and stereotypical representations, the personalities of these characters struggle to emerge, creating a disharmonic tension between the intimate story of Lara and the flat depiction of her companions. According to Pamela Robertson Wojck:

> […] typecasting is political practice, not only as a labor issue but also as a touchstone for ideologies and identity. […] typecasting in film is, to a large degree, inescapable. Insofar as the business of film acting, and especially the star system, relies on recognisability, marketability, and the necessity for known commodities, typecasting will be part and parcel of the institution. Further, insofar as the actor represents human characters, film acting relates to changing conceptions of identity and identity politics, and thus the actor will inevitably negotiate stereotypes and represent identities inflected by race, gender, ethnicity, class, and national differences. [521]

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[519] Keza MacDonald, 'A New Dawn for Lara', in *IGN.uk* (25/02/2013). Retrieved from http://uk.ign.com/articles/2013/02/25/tomb-raider-review-2 (accessed on 21/03/2014).

[520] Some commentators highlighted the superficial treatment of the supporting characters compared to the protagonist. '[…] the game defaults to stereotypes for all the characters—you've got your perky Asian girl, your noble savage, the father figure, the angry black woman. Lara herself is the bookish girl, who cares more about studying than fun'. Megan Patterson, 'Game Review: Tomb Raider is Very Annoying', in PeperDroids (16/05/2013). Retrieved from http://www.paperdroids.com/2013/05/16/game-review-tomb-raider-is-very-annoying/ (accessed on 21/03/2014). Also the players comment on the exaggerated stereotypical traits of some of the characters. Especially Reyes, is often described with the eponymous "angry black woman". Cf. Tyra_Monteiro (user ID), 'I can't ******* stand Reyes', in *GameFAQs* (14/03/2013). Retrieved from http://www.gamefaqs.com/boards/615699-tomb-raider/65687541?page=1 (accessed on 21/03/2014).

[521] Pamela Robertson Wojck, op. cit., 2004, p. 170.

The use of typecasting is functional to the creation of "convenience characters", easy to relate and to understand through cultural commodification. On the other hand, in video games, typecasting is also used to bridge the "uncanny valley". The exaggeration of some of the traits provides quick characterisation for synthetic characters, filling the gap by appealing to the player's familiarity with stereotypical models. Nevertheless, other titles such as *The Last of Us*, manage to provide a characterisation beyond the exaggeration of racial, gender and cultural elements. In the *Last of Us*, the personal story of the characters is inflated by the atmosphere of the world in which they live, breathing its history and allowing them to transcend their "characterisation" to focus on their individual stories, proving the importance of screenwriting in video games and its ability to overcome technical limitations.[522] Other titles, especially RPGs deploying character creation tools, use non-culturally specific background to create allegories. In the universe of *Mass Effect* the sci-fi setting allows for the de-contextualisation of references to existing social classes and to cultural/racial differences, which rather re-emerge in the relations between alien races.[523] From the selection of the avatar offering a wide variety of ethnic groups, to the multitude of NPCs presented in the three chapters, *Mass Effect* offers an impressive range of races, ages, body types, genders and sexualities.[524]

I come back to my original question – why do we need to break down her

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[522] The two games make for a useful comparison due to their many similarities. Not only do the two titles share themes and gameplay styles (they both aim to develop a certain degree of survival mechanics and narrative atmosphere) but they have been also released in the same year (2013) and developed for similar devices (while *Tomb Raider* has been released for PlayStation 3, Xbox 360 and PC, *The Last of Us* is a PlayStation 3 exclusive).

[523] In *Mass Effect*, the absence of recognisable stereotypes associated to specific races and cultures does not prevent the titles from developing a social critique precisely through the means of sci-fi metaphors. Issues of racism, religion, colonialism and sexuality are widely addressed in the three titles of the series, yet mediated through the fantasy scenario offered by the narration.

[524] Bioware's title is quite invested in the representation of sexual identities, offering to the player the possibility to develop personal relationships with characters of different races and genders. In this sense, the interactive nature of video games allows a more representative, and potentially subversive, experience according to the cultural, ethnic and sexual background of the user.

> supermodel status? Why do we need this relationship with Lara? What's wrong with playing the badass girl that goes and kills everything and wins? Why do we need to get to know her and protect her?[525]

Answering the questions posed by the author of the piece quoted above, cinematic video games develop characters that need a strong and relatable emotional identity in order to fill the gap between the player and the digital performance. The control granted to the player over the virtual double and over the narration is limited, and strongly developed characters are needed in order to bridge the gap between interaction and spectatorship. The development of the characters' personalities is, in fact, useful in order to make up for the limited agency of the player within the virtual world, enhancing his/her sense of vicarious presence through the reactions of the player-character. For these reasons, elements such as contextual animation and verbal comments help the immersion in the virtual environment, but they also become part of the gameplay mechanics.[526]

We do not want to "be" Lara Croft, we want to "play with" Lara Croft, to momentarily borrow her persona and to join her adventurous life. We want to observe her, listen to her and to her thoughts, understand her feelings in order to establish an empathic connection. But most of all we do not want Lara Croft to be us. We want her to be something more, someone "extra-ordinary" that features in TV advertisement as well as in video games and films. We want her to inhabit the world of notorious people, yet also to be able to approach her at our convenience to join

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[525] Louisa Peacock, 'Tomb Raider: I don't need reminding that Lara Croft is a woman', in *The Telegraph* (23/02/2013). Retrieved from http://www.telegraph.co.uk/women/womens-life/9893950/Lara-Croft-in-Tomb-Raider-I-dont-need-reminding-that-shes-a-woman.html (Accessed on 13/03/2013).

[526] The verbal comments are used in order to provide directions, tips and indications to the player, preserving, at the same time, the suspension of disbelief.

one of her missions. We want Lara to be a star in order to forget momentarily who we are and live the illusion to share her "Hollywood life".

A final note on the clash between the two industries is relevant due to the recent involvement of Ellen Page in the production of *Beyond: Two Souls*. The title has been expressively tailored to the involvement of the actress and been marketed accordingly. One trailer features opening credits similar to those of a film, showcasing Ellen Page and Willem Defoe's participation in the project right at the beginning and expressively addressing the two interpreters as "movie stars". Here the actors –the physical ones– become the centre of attention for players who are granted the possibility to play not only with the characters of the game, but also with the performance of the stars featuring in it. The direct participation of Ellen Page in this project was a sufficiently important element as to require her engagement in a public argument on social media right before the release of *Beyond: Two Souls*,[527] when Naughty Dog (a rival Sony-affiliated studio) published *The Last of Us*[528] featuring a character that strikingly resembles actress, and even shares a similar name, Ellie.[529]

Not only are the digital characters of video games breaching the virtual threshold and becoming part of stardom discourses, but even Hollywood "live" stars are crossing over into the virtual realm lending their identities to synthetic characters that –while

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[527] Quantic Dream's *Beyond: Two Souls* has been released officially on 08 October 2013

[528] Naughty Dong's *The Last of Us* came out on 14 June 2013.

[529] During an open QA online, Ellen Page, confronted by the fans on the topic, clearly manifested her disappointment for having her "likeness" unofficially featuring in another project: 'I guess I should be flattered that they ripped off my likeness, but I am actually acting in a video game called Beyond Two Souls, so it was not appreciated'. Cf. Lucy O'Brien, 'Ellen Page Doesn't Appreciate the Use of Her Likeness in The Last of Us', in *IGN* (23/06/2013). Retrieved from http://uk.ign.com/articles/2013/06/24/ellen-page-doesnt-appreciate-the-use-of-her-likeness-in-the-last-of-us (accessed on 03/04/2014). See also 'I am actress Ellen Page', in *Reddit* (23/06/2013). Retrieved from http://www.reddit.com/r/IAmA/comments/1gxgfx/i_am_actress_ellen_page_amaa/ (accessed on 03/04/2014).

not threatening their role as performers– are now pushing to gain an “extra-life”, to “exceed” the medium and to become part of the real world just like the protagonist of *Simone*.

Section 2 – Shooting the game: playing at filming and editing in video games

Introduction

So far, I have highlighted the similarities between the construction of the stage in cinema and video games. From the organisation of the game world as theatrical stage for the player to perform, to the deployment of expressive lighting codes and virtual actors responding in dramatic ways to the world around them, the audiovisual strategies and codes of cinematic video games emerge clearly through the analysis of the mise-en-jeu. While the first section of this work addressed issues related to the profilmic dimension of the video game image –although the idea of the virtual camera intercepts issues such as the presence of on- and off-screen space– the second section wants to investigate the filmic level resulting from the mediation of the camera. The camera works as a cinematic instance filtering both the representation of the video game world and the interaction of the player with it. The presence of virtual cameras in contemporary video game productions raises issues such as: the ontological status of the video game image; its perception and reception in relation to cinema; the creation of a viewpoint that frames – and thus interprets – the action; the modalities in which changes in the viewpoint occur via camera movements and editing, providing dramatic fragmentation to the action. While space was the crucial dimension of the previous section, here time is given a more prominent role, for it is a fundamental aspect in these mediating processes: shooting and editing. The introduction of the third dimension in video games raised a need for control over the viewpoint, leading to the implementation of pre-existing codes and modalities of framing, fragmenting and bridging moving images. Over the years, these controls became more sophisticated, requiring an increasing level of audiovisual literacy for the player to master the virtual environment and its representation. The commercialisation of Sony's PlayStation and the introduction of a second analog stick on the pad –one of today's most common features– facilitated changes in the way video games are understood.[530] From that moment on, cinematic language became a fundamental part of video games' representation. The introduction of the second stick signalled the end of video games' fixed spaces, in which players would only move their player-character, and the emergence of a dynamic filmic space that players can frame through mobile viewpoints, thus fragmenting, deconstructing and reconstructing them in infinite ways. The introduction of a third dimension encouraged the development of new means of representation and the need for better audiovisual features to master them.

According to Alexander Galloway, the video game image is an action-image: 'If photographs are images, and films are moving images, then *video games are actions*'.[531] The expression "playing at shooting", that gives the name to this section wants to provocatively reflect the double nature of video games' most common action: shooting. Video game interaction is generally associated with violence, epitomised in the act of shooting at something. Since the development of three-dimensional graphics, the FPS became one of the most successful genres, especially

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[530] Home console controllers were previously based on the D-pad model which allowed for ideal control in two dimensions but was limiting for three-dimensional control as it allowed for only 8 directional inputs. Some niche and experimental devices featured a single analog stick resembling the ones already implemented in arcade machines. Sony was a pioneer also in this field as it released a Dual Analog Stick (1996) –also referred as Sony Flightstick– especially designed for tridimensional flight simulators. It was only in 1997 that dual analog stick configuration gained popularity with the release of Sony Playstation's DualShock, preceded by the Dual Analog Control that was released without the vibration feedback feature. Despite the presence of predecessors, the commercialisation of the DualShock represents a defining moment in the spread and adoption of this technology that, once it reached a wider audience, allowed designers to think of mobile POVs in tridimensional space, with one stick frequently dedicated to the control of the virtual camera.

[531] Alexander R. Galloway, op. cit., 2006, p. 2.

on PC and home-consoles. Regardless of the genre involved, the act of shooting in video games is far more pervasive and of greater relevance in its cinematic acceptation. To “shoot” means, in this context, to see the world through a filter –a camera– to frame it establishing a viewpoint, selecting and isolating relevant elements within it, establishing visual relations between them and creating meaning out of these relations.

As seen in the previous chapters, the concept of simulation is central in theoretical debates on video games. The idea of simulation is often used in order to recall some fundamental characteristics of these artefacts, such as the presence of a formal system that, through a machine, provides a dynamic output on the basis of the player’s input and in accordance with the rule of the game. In this sense, the concept of simulation points at the production of a system, rather than a fixed text, in which the variables produce different possible outcomes. For this reason the parallels drawn between cinema and video games have often been challenged. Nevertheless, in this work I argue for the relevance of this comparison, even whilst respecting basic medium specificities. Simulation is definitely fundamental to video games. Whether it is the graphics engine, the physics or even an AI for the direction of the characters, video games work on algorithms that simulate a number of possibilities and branches to which a response is provided depending on the interaction of the user. But the question is: what does the system simulate? Do video games simulate reality? An answer to this question is that video games simulate “a reality”. But what kind of reality do video games simulate? Cinematic video games are those games that simulate reality as seen at the cinema. From the perception of time to the organisation of space, from the actions of the characters to the events in the virtual world, everything in these titles is staged and meant to be looked at while being performed, framed by the lenses of a virtual camera that mediates not only the viewpoint, but the whole gaming experience, shaping the modalities of its fruition.

The following chapters discuss some of the most relevant aspects of this mediation process and the theoretical issues that they present. Like the previous one, also this section is divided in chapters that address macro-areas of investigation in the theoretical issues related to cinematic games: the role of the camera in shooting the game experience; the dimension of time in video games; editing and the relationship between fragmentation and continuity in the videoludic image.

Chapter 5 –

A camera-less cinema: the empathic and embodied camera in video games

> What would happen to cinema if many, or even all, films dispensed with cameras? In the most technologically advanced films of the twenty-first century, such as *Beowulf* (2007), cameras play only an ancillary role. The screen seldom reflects the visual information that light originally carried through a camera lens; rather, what we see is the artifact of computer rearrangements of a number of contributing visual elements, only some of which begin with cinematography. The computer lays out a comprehensible view that may be further elaborated through virtual imaging. Thus a single long-take view (never actually shot by a single camera) becomes a master shot that orients successive views derived from it via geometrical realignments. The "scene" can be explored as if a camera has moved in for close-ups, or has cut to a 90-degree view, or has craned up and around in a spiral motion – yet all without a camera. The virtual reality installations that one encounters in museums or theme parks, as well as most video games, likewise employ cameras mainly as assists in the first stage of their production. In audiovisual entertainment, cameras are at best conveniences, potentially dispensable as computer technology improves.[532]

The video game image is different, in its nature, from the film image. This difference is generally framed within ontological discourses based on the means and devices of

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[532] Dudley Andrew, *What Cinema Is! Bazin's Quest and its Charge* (Oxford: Wiley-Blackwell, 2010), p. 2.

production: the film image is traditionally associated with the camera while the video game image is connected to electronic machines (computers, consoles etc.). Film cameras capture a photographic image, while the video game image is synthetic and completely artificial, being generated by the machine. Hence, the latter does not result from a process of "reproduction" but from one of "production". Despite video games' nature as industrial objects –identically replicated each time– the image production process does not take place before but during the fruition of the artefact. As a consequence, the image is not simply replicated and reproduced, but (in most cases)[533] it is re-created *ex novo* in real time.[534] While in films the camera is at the centre of the image production process, in video games the image is a visual representation, a 'mediation'[535] generated to make understandable to the user the algorithms that generate it. Here cameras are conceptualisations, embellishments to the numerical world of the electronic machines that generate the images. For these reasons, issues of image ontology and its photographic character are hardly posed in relation to video games and seem, at first, inconsistent with the medium and its non-photographic nature.

The question of the ontology of the cinematic image has been a central issue in film theory since its birth. This issue is often associated with André Bazin's seminal work *What is Cinema?* in which the author theorises the photographic nature of the

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[533] Exceptions to this model can be found generally in the implementation of *cut-scenes* or live-action materials in adventure games such as *Phantasmagoria* (Sierra On-Line/Kronos, 1995, USA), or *Enter the Matrix* (Shiny Entertainment, 2003, USA) and other games characterised by a strong intertextual relation with films and other audiovisual products.

[534] Following the new media theory proposed by Lev Manovich, we can attribute this phenomenon to three characteristics of new media: the 'numerical representation', the 'modularity' and the 'automation', the latter resulting from the previous two, as numerical representation and a modular structure allow for the automation of some processes. On a graphic level, this results in changes that can occur at each interaction with the text. According to the input, each player will have a different graphic output. Cf. Lev Manovich, op. cit., 2001.

[535] Cf. Michael Nitsche, op. cit., 2008.

cinematic medium and its vocation for the representation of reality, which cinema, like photography before, captures the "essence" of, bringing it "back to life".[536] In the insightful introduction to his recent book *What Cinema Is*, Dudley Andrew interrogates the changes undertaken by cinema in the age of digital imagery 50 years after Bazin's work. By asking what happens to cinema when cameras are no longer needed, the author metonymically recalls the debates on the ontology of the cinematic image. Evoking Bazin's collection in its title, Andrew's work provocatively rehashes the debates on the ontology of cinema in the light of the digital turn, retracing both radical arguments sustaining cinema's photographic purity and apocalyptic ones that summon the "death of cinema"[537] as sentenced during the 1990s. Nevertheless, in recent years cinema has continued to be very much alive, pointing instead at the difficulties of film theory to account for the changes that have occurred in the medium.

At the core there is the opposition between two ideas of cinema. The first one, associated with the Bazinian tradition, wants cinema to be a medium for the investigation of the real, an instrument to capture the world before the camera that replicates life as it is. This position is defined by Andrew as the 'Cahiers Axiom'[538] and is summarised in Serge Daney's quote: 'c'est que le cinema a rapport au réel et

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[536] Among the most frequently quoted essays of *What is Cinema?* is the one on the 'Ontology of the Photographic Image'. In its famous incipit, Bazin connects the cinematic medium to man's everlasting quest for immortality and the practices related to it, exemplified in what he calls the 'mummy complex'. Cf. André Bazin, *What is Cinema?*, CA, Berkeley: University of California Press, 2005 [1967], p. 9.

[537] Niels Niessen explains the two meanings of this expression in its material acceptation –the constant decaying of films and photographic supports– as exemplified in Cherchi Usai's *The Death of Cinema: History, Cultural Memory and the Digital Dark Age*, London: British Film Institute, 2001, and in its phenomenological one –the practices and the act of film projection within cinema's venues– as intended by Rodowick's *The Virtual Life of a Film*. Cf. Niels Niessen, 'Lives of Cinema: Against its Death', in *Screen* n. 52 (3), (Autumn) 2011, [pp. 307–326] pp. 308–309.

[538] Dudley Andrew, op. cit., 2010, p. 4.

que le réel n'est pas le représenté—et basta'.[539] Thus the key characteristic –or specificity, from a media perspective– of cinema is its 'fundamental rapport with reality'. Contrary to other figurative arts based on iconic representation such as painting and sculpture, cinema's relation with reality is expressed by the index, the direct connection between the object and its representation bridged though reflected light impressed on film, for which the original and its copy are the same. These ideas are often associated with innovative national movements in cinema history such as the *nouvelle vague*, Italian neorealism and, more generally, with European auteur cinema.[540]

On the other side of this argument, as seen in previous chapters, authors such as Tom Gunning have recently reframed the ontology issue, shifting its focus from the indexical quality of the photographic image to the kinetic character of the moving image, redefining it as the main characteristic of the medium and developing a new genealogy that Andrew calls 'cinema as animated storyboard'.[541]

> Cel animation has always amounted to a camera-less cinema anyway. Designed on two-dimensional surfaces, thousands of pictures are then manipulated and sequenced to appear alive and moving in three-dimensional space when presented full-speed on screen. This is one reason, though not the most essential, that Sean Cubitt has declared all cinema to be fundamentally a version of animation, rather than the

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[539] Serge Daney, *L'Exercise a été profitable, monsieur*, Paris: POL, 1993, p. 301. The quote is translated by Andrew as 'that the cinema has a fundamental rapport with reality and that the real is not what is represented – and that's final'. Dudley Andrew, op. cit., 2010, p. 5.

[540] Andrew references authors such as Truffaut, Rohmer, Godard, Rossellini, the more recent Von Trier and even less European voices such as the one of Abbas Kiarostami. Cf. Dudley Andrew, op. cit., 2010, p. 5.

[541] Ibidem, p. 5.

> reverse.[542]

Theorised, among others, by Sean Cubitt, this second approach allocates cinema to the larger tradition of animation, stripping it of its photographic bond and reconceptualising it as an effect, dependent on the relationship between the experience and its user, rather than an object, fixed in its definition regardless of its use: '[…] there is something fictive, something uncanny, or something that, however marginally, fails the reality test in even the most engrossing films, and perhaps in them most of all'.[543] By asking "what cinema does", Cubitt moves the question of cinema's nature within a phenomenological framework in which cinema becomes literally a medium –means of communication– that filters, articulates and shapes perception that is never and does not want to ever be–contrary to traditional Bazinian positions– an exact copy of reality. Nevertheless, as agued by Andrew, Bazin's work has been stratified and simplified (often out of context) to the point of radicalising and reducing his positions to materialist ontological arguments. In spite of the presence of the word 'ontology' in its title, the essay is heavily contaminated with reflections on the phenomenology of cinema and how its "effect" is determined by the ontological nature of the medium, its photographic specificity, supporting the more comprehensive reading of Bazin provided by Andrew:

> In fact, the "Ontology" essay concludes on a notorious note that points ahead to Bazin's second phase: this single sentence "D'ailleurs le cinema est un langage" upends the huge claims just made for raw photography, which may be necessary for cinema, yet is evidently insufficient to explain

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[542] Ibidem, p. 2.

[543] Sean Cubitt, *The Cinema Effect*, MA, Cambridge: MIT Press, 2004, p. 1.

> the full phenomenon that Bazin cares about. Today, Bazin might say that photography contributes essentially to cinema's DNA. But what about cinema's social growth, its historical identity, as it adapts to the roles it is asked to take on? "What cinema is" may depend on the primary psychological power of photographic realism, but cinema's actual value is historically constituted, since the fact that "the cinema is also a language" means that it evolves within an arena of cultural discourses.[544]

The suggestive incipit of Bazin' s most quoted work, which compares cinema to other arts and practices dedicated to the sublimation of death, reached by capturing life in its representations, and the final passage that unexpectedly sanctions the status of cinema as language, account for the social evolution and the technological development of cinema beyond its photographic nature, as a cultural phenomenon, as an historical object, as an effect that indeed reproduces realities which are always different and not necessarily direct traces of the physical world. This passage fundamentally connects the ontological nature of cinema to its phenomenology, restating the importance of cinema in the digital era. Regardless of the synthetic nature of the digital image, cinema still persists as necessary means to convey the "reality effect", the sense of looking through a window, or traversing the threshold to another world whose existence is testified by the very presence of a recording device capturing it.

> The screen, then, is a threshold through which the viewer (the view-*finder*) passes on the way to visual experience. The threshold adds a third dimension to the frame, taken either as depth or as time. As an

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[544] Dudley Andrew, op. cit., 2010, p. 111.

> architectural feature, the threshold stands in permanent relation to the spaces that lie on its either side; but since it effectively allows heterogeneous spaces to communicate, and since it functions as a passage from one to the other, the threshold implies movement in a way neither a frame nor a window quite does.[545]

It could be argued that video games are nothing like cinema, as they negate reality and exchange it for its simulation, distant from the referential dimension of the index and closer to symbolic instances. Video games are more frequently associated with discourses around virtual reality and digital imagery, away from the realm of photography and realism and rather embedded in the rhetoric of hyper-reality. As argued by Andrew Darley: '[…] "technological images" are central elements in the production and maintenance of a general condition of "disenchanted simulation", that is, of the "hyperreality" which everywhere has come to constitute the contemporary world'.[546] Building on the work of Baudrillard, Darley describes the increasing tendency towards formalisation, the relevance of the surface in image production and the disappearance of meaning-making processes substituted for sensuous 'surface-play', the ephemeral experience offered by non-real but believable imageries. According to Darley's framework, there is a tendency toward the marginalisation of meaning in the post-modern production and fruition of images. Surface-play does not require the understanding of a meaning beyond it, nor the interpretation of its true "essence" or, in Bazinian terms, its relationship with reality. The essence of the image is the image itself, displayed on its surface that gives cues

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[545] Ibidem, pp. 84–85.

[546] Andrew Darley, *Visual Digital Culture: Surface Play and Spectacle in New Media Genre*, New York:Routledge, 2000, p. 64.

and information to the viewer or player. Video games emerge as the culmination of this transformation, for which the interpretative activity of the spectator is turned into the interactive activity of the player, a vicarious kinaesthetic experience based on senses rather than interpretation. Nevertheless, as far removed from the physical world as it may be, hyper-reality still states its nature as "a reality", a system with a coherence of its own and rules that make it a believable whole. Through the use of hyperrealistic synthetic images we shape a reality that is openly unreal but looks realistic enough to be believed.

> The real and the reality principle are today denied or confounded by the images of the system itself, there is no longer any space left for the play of illusion that constituted the challenge of *trompe l'oeil*. This is Baudrillard's by now familiar thesis that, whereas media representations (images included) were once held to refer to an objective reality, today as their technologically based proliferation, reproducibility, mobility and 'realist capabilities' intensify, so they come to compete with, to confound and eventually to volatise reality, replacing it with a new mode of experience which he terms 'hyperreality' or 'the more real than the real'. [547]

Darley applies player paradigms to the entirety of audiovisual media, including cinema and television. The same concept of surface-play is consequently relevant here, according to which perception is foregrounded as the main activity of the user who plays with the image rather than interpreting it: 'what the "players" and "riders" of games and simulation attractions are doing can be construed as in many respects broadly typical of the spectator experience involved in the other genres of visual

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[547] Ibidem, p. 65.

digital culture'.[548] Despite their unreal nature, we perceive these images as a second-hand reality, one whose believability is provided by its mediatised nature. The hyper-real effect is found at the conjunction between the synthetic and the real, between what is manifestly artificial and what is deceptively real, generating another realistic but openly non-real dimension:

> The *hyperrealism* manifest here stems as much from the intensification of a naturalism already tinged with contradictory tension – i.e. the realist cartoon itself – as from the sheer surface accuracy of the images themselves. Ordinary objects do appear to have 'actually', 'really' come alive – though not for a moment would anyone actually believe this.[549]

In this sense, video games epitomise hyperreality. In video games the object and the subject of the gaze merge and the player is the spectator of his/her own performance taking shape simultaneously as the computer generates new synthetic images: 'The implication Baudrillard wishes to draw from such a definitive capture, is the dissolution of the subject/object distinction […] interior and exterior spheres as these become more and more blurred in our heads, and are substituted with the media-produced hyperreal'.[550] The subject/object distinction literally collapses in video games, as the subject of the gaze also constitutes the object. Unlike any other form of expression, video games merge the performer and the spectator as the medium reflects the double nature of its name: the ludic-performative on one side and the audiovisual-configurative on the other. The cinematic apparatus provides the tools for a representation, in which is inscribed the ideology that allows the observation of

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[548] Ibidem, p. 3.
[549] Ibidem, p. 92.
[550] Ibidem, p. 66.

an event taking place from afar, even in another reality such as the virtual one. In cinematic video games, the illusion of the synthetic brought to life is allowed by the presence of a codified recording device, long associated with the reproduction of reality. Cinema is the apparatus for the reproduction of reality through moving images, and the camera is its instrument. For we are aware of the non-real character of these realistic but synthetic images, they do not necessarily reproduce reality as we understand it, but instead they produce an enhanced and perfected version of it, explored, as described by Andrew, through impossible viewpoints and virtuoso camera movements that make manifest their artificial nature. Andrew provocatively points at the paradoxical photographic appeal of the digital image and the hyperbolic performances of the virtual camera. Following this polemic line, the resulting artefact is incapable of collecting the essence of the real, of the profilmic world that ceases to exist, replaced by its virtual counterpart. In fact, virtual cameras are now capable of movements and angles impossible before, creating impossible viewpoints and impossible spaces, which we accept to be "real" for they are perceived as recorded through the lenses of the recording device.

> And this in order to produce a realism that is more transparent than ever before, a realism committed to the illusionistic representation of the impossible: a *super-realism* given over to rendering the fantastic with the surface accuracy associated with photography.[551]

Nevertheless, a contextualisation of the ontological issue –cinema as photographic medium– within its phenomenological consequences –cinema as the medium of the real– allows for the emergence of the "reality effect" generated by cinematic

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[551] Ibidem, p. 115.

language. Discussing the implications of digital technologies applied to cinema, Scott McQuire points at the importance of the camera as a concept to understand screened realities: ‘The most noticeable change is that the credibility of CGI is now judged not against ‘reality’, but instead against ‘camera-reality’. This reflects the extent to which camera based images have been normalised as a standard of true representation’.[552]

The relationship between the ontological and the phenomenological characteristics of cinema is reflected in the juxtaposition between the ‘materiality’ of the film image against the ‘immateriality’[553] of the videoludic one. This duality is generated from the different nature of the devices that produce the images. In his conceptualisation of video game space, Michael Nitsche highlights the role of cameras as recording devices that have no ontological equivalent in the virtual world:

> A virtual camera is a mathematical entity, not a physical one; it does not record the light emitted or reflected by a certain event, but rather creates a projection of an imagined viewpoint on the monitor. It modifies a light source instead of recording an existing one. All this raises a question of terminology.[554]

Thus at the basis of the ontological difference between the film image and the video game image there is the different nature of their means of production: a physical (material) entity, the “camera”, and a virtual (immaterial) one, the “viewpoint”. This distinction problematizes the terminology adopted in order to define the expressive

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[552] Scott McQuire, *Crossing the Digital Threshold*, Brisbane: Australian Key Centre for Cultural and Media Policy, Faculty of Humanities, Griffith University, 1997, p. 5.

[553] Cf. Michael Nitsche, op. cit., 2008, p. 90.

[554] Ibidem, p. 90.

tools associated with these devices. Indeed, in video games the image is a virtual representation of algorithms and, as a consequence, the camera is a conceptualisation of the viewpoint that determines characteristics such as its position, angle and the proportions of the frame. In this sense the camera is an idea, a 'label that produces meaning'[555], a 'cultural reference'[556] used in order to address the identification of a virtual entity, a viewpoint from which the image is (re)produced. The camera becomes a sign, a virtual object in social and cultural discourses, thus a 'virtual camera'.[557] At the same time, the virtual camera constitutes a symbolic connection to the world of filmic expression and its language. A number of audiovisual conventions were developed through cinematic literacy, according to which the presence of a camera establishes a situation of vicarious proximity with the represented space. This proximity is provided via the screen, a window on another dimension that exists thanks to the mediating power of the camera itself. Therefore, the virtual camera is the source of cinematic language, its origin and generator that brings the "reality effect" to video games. In his work on the digitalisation of the cinematic medium, David Rodowick points at a consistency in functions between the physical and the virtual camera:

> One simple response is to say that digital cameras, or even "virtual" cameras creating wholly synthesized spaces on computers, are still based on the same optical geometry as traditional cameras and rely on the same

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[555] Berard Perron recalls and applies to video games a definition of camera provided by Branigan in *What is Camera?* Cf. Bernard Perron and Carl Therrien, op. cit., 2009, p. 47.

[556] On the concept of "virtual camera" cf. David Thomas and Gary Haussmann, 'The cinematic Camera as Video Game *Cliché*', in Suzanne de Castell and Jennifer Jenson (eds.) *DIGRA 2005 Conference – Changing Views: Worlds in Play*, Digital Proceedings (Vancouver: DIGRA, 2005). Retrieved from http://www.digra.org/dl/db/06278.52285.pdf [accessed on 21 May 2012]. Cf. also Bernard Perron and Carl Therrien, op. cit., 2009, p. 47; Michael Nitsche, op. cit., 2008, p. 90; Wee Liang Tong and Marcus Cheng Chye Tan, 'Vision and Virtuality: The Cunstruction of Narrative Space in Film and Computer Games', in Geoff King and Tanya Krzywinska (eds.) *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower Press, [pp. 98-109] p. 106.

[557] Michael Nitsche, op. cit., 2008, p. 90.

> historically and culturally evolved mathematics of depth and light rendering descended from *perspectiva legittima*. Although digital processes have produced many fascinating stylistic innovations, there is a strong sense in which what counts intuitively as an "image" has changed very little for Western cultures for several centuries.[558]

The immateriality of the virtual camera is an ambiguous characteristic that, as highlighted by Andrew in relation to digital cinema, affects also its behaviour. The virtual camera is not bound to a physical body and it does not have the restrictions of physical objects bound to space and time. The viewpoint of the virtual camera can be placed anywhere in the virtual environment and its trajectories and movements are completely free, depending only on the user and on the system that rules it. On the other hand, the extreme freedom granted by the synthetic nature of this device also unveils its limits and its virtual nature. The lack of physical constraints and the freedom that comes with it reveal the artificial nature of these means of representation, exposing the player to a sense of estrangement, being unable to recognise typical traits of cinematic aesthetics.[559] As a consequence, this determined an increasing attempt to mimic the physical characteristics of cameras by artificially implementing representations and simulations of these constraints. Despite the absence of gravity in the virtual world and the lack of a lens to filter the image produced by the virtual camera, designers implement a number of tools in order to simulate these effects.

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[558] David Norman Rodowick, *The Virtual Life of a Film*, Cambridge, MA: Harvard University Press, 2007, p. 11.

[559] Cf. Michael Nitsche, op. cit., 2008, p. 103.

[redacted]

Figure 16 - *Dirt 3* (left) and *Crysis 2* (right)

For this reason, video games often feature effects such as *lens-flare* (Figure 16, left), extremely common in racing games such as *Dirt 3*[560] and *Gran Turismo 5*,[561] that imitate the refraction of the light on camera lens to suggest the presence of a device broadcasting the event; but also in action games such as *Gears of War* and in FPSs, namely *Call of Duty Modern Warfare 3*[562] and *Far Cry 3*, in which similar effects simulate an optical device aesthetically associated with physical cameras, perfected in its freedom of movements but still limited by its photographic nature. In a similar way, in games such as *Crysis 2*,[563] (Figure 16, right) surfaces often resonate with glare, showing interferences in the optical device recording the image, a visual noise that blurs the surfaces with the light refracted on them. Metal and glass surfaces reflect the light creating halos, secondary sources of illumination that testify to the physical qualities of the device that captures the image and (indirectly) of the reality that is recorded.

Michael Nitsche developed one of the most compelling analyses of filmic instances in video games. Mapping the typologies of virtual cameras, he identifies four kinds of camera behaviours: the following camera, the overhead view, the first-person POV

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[560] *Dirt 3*, Codemasters Southam, UK, 2011.

[561] *Gran Turismo 5*, Polyphony Digital, Japan, 2010.

[562] *Call of Duty Modern Warfare 3*, Infinity Ward, Sledgehammer Games, Raven Software, USA, 2011.

[563] *Crysis 2*, Crytek Frankfurt, Germany, 2011.

and the predefined point of view.[564] This taxonomy is loosely modelled along the lines of categories adopted by the industry, by the specialised press and in users' discourses. In his account the concepts of camera, viewpoint and frame collide into one category, highlighting their functionality rather than aesthetic qualities. Moreover, Nitsche's description of camera behaviours merges framing scale and camera movements depending on the camera function prominent in each category. The 'first person point of view'[565] describes cameras that emulate the subjective POV of the player-character, with a view angle of approximately 120°. This is probably the most interesting typology because its formal features are often used to evoke phenomenological differences between the two media: on one side, the cinematic camera is an instrument of gaze and observation; on the other, the video game virtual camera is a tool for embodiment and action. In fact, the first person POV is one of the most discussed in video game literature, not only because of its popularity as prominent feature of the FPS genre, but also due to its dualistic nature as cinematic tool and exquisitely ludic function. Alexander Galloway argues for the recognition of a divergence in aesthetics between cinema and video games exemplified in the use of the point-of-view shot at the cinema and the first-person perspective in video games:

> In film, the subjective perspective is marginalized and used primarily to effect a sense of alienation, detachment, fear, or violence, while in games the subjective perspective is quite common and used to achieve an intuitive sense of motion and action in game- play.[566]

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[564] Cf. Michael Nitsche, op. cit., 2008, p. 93.

[565] Ibidem, p. 102.

[566] Alexander R. Galloway, op. cit., 2006, p. 40.

The author underlines the distinction between the *point-of-view shot*, which approximately shows what the character sees, and the *subjective shot*, which instead is positioned exactly in line with the character's eyes and tracks the movements of its head.[567] Through this distinction, Galloway argues that cinema rarely uses the subjective shot due to its revelatory effect that points directly at the voyeuristic position of the spectator and consequently at the fiction of the cinematic medium. Expanding this notion, the author rightfully argues for the variety of viewpoints (ocularisation) offered in the majority of films, which are rarely limited to one character. According to Galloway, the subjective shot is used at the cinema to convey a sense of alienation and otherness, creating empathy either towards the character that produces the vision (generally associated with 'mental affect', 'detachment or distancing'), or towards the object of the lurking vision of a creature that –quoting Carol Clover's work[568]– offers a 'predatory view' to the audience.

> From early science-fiction monster films like *It Came from Outer Space*, to pioneering horror films like *Psycho* or *Halloween*, to the more recent film *The Eye*, the first-person subjective shot is used to show what Carol Clover calls "predatory" or "assaultive" vision, that is, a sadistic way of seeing characterized by aggressive action, forward movement, and onscreen violence. "*Predatory gazing* through the agency of the first-person camera," writes Clover, "is part of the stock-in-trade of horror." [569]

For Galloway, while at the cinema the subjective shot is used to problematize the

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[567] Ibidem, p. 41.

[568] Carol J. Clover, 'The Eye of Horror' in Linda Williams (ed.), *Viewing Positions: Ways of Seeing Film*, New Brunswick: Rutgers University Press, 1995, p. 193, quoted in Alexander R. Galloway, op. cit., 2006, pp. 50.

[569] Alexander R. Galloway, op. cit., 2006, pp. 46, 47, 50.

medium and the subject/object relation with the gaze, in video games the first-person view accommodates its interactive and ludic nature, favouring immersion through proximity and mobility within the virtual space:

> Where film uses the subjective shot to represent a problem with identification, games use the subjective shot to create identification. While film has thus far used the subjective shot as a corrective to break through and destroy certain stabilizing elements in the film apparatus, games use the subjective shot to facilitate an active subject position that enables and facilitates the gamic apparatus.[570]

While recognising the aesthetic links between the experimental nature of this feature at the cinema and its consolidated role in video games, Galloway points at its different aesthetic value and its medium specificity. Also Andrew Darley underlines the fundamental difference in terms of identification through the use of a first-person perspective in the two media. The subjective camera shot at the cinema avoids eye contact with other characters in order to 'prevent exposure of the identification between spectator and camera that is so vital to the illusionist aesthetic that comprises this type of cinema', while in video games 'The representational spaces of the diorama and the cinema fuse – it is *as if* one has been assigned the role of camera-person in this virtual world', giving a 'limited and illusory' freedom to explore and frame the game at will eventually surpassing the cinematic paradigm.[571] The idea of the camera-person is central to understanding the deployment of this feature across the two media. In fact, the cinematic character of this form is not

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[570] Ibidem, pp. 69.

[571] Andrew Darley, *Visual Digital Culture: Surface Play and Spectacle in New Media Genre*, New York:Routledge, 2000, p. 159.

contained primarily in its perspective, but in its conceptual premises by which the possibility of the representation is granted by the presence of a familiar means to convey images from afar –such as the camera– providing proximity through the moving image.

The limits of these distinctions lie also in their historicity and in the static relations individuated by Darley between the two media. It is often the case that, in the light of similar arguments, the notion of remediation is criticised or dismissed for its sense of historical linearity and causality that creates a techno-deterministic account of media development. Nevertheless, remediation was never understood by its key theorists as a linear process, but as a nexus of influences that intersect multiple media through a circular trajectory. Despite the scarce occurrence of subjective shots in films, what is fundamental and compelling about the cinematic quality of the first-person view in video games is the level of hypermediacy needed in order to reach the immediacy of the immersion invoked by Galloway and Darley. Galloway eventually moves beyond the subjective point of view paradigm pointing at the influence of video games' first-person vision beyond its literal cinematic translation, as part of a broader aesthetic discourse of 'affective motion'.[572] Here affect becomes a central characteristic of the gamic apparatus and he concludes that 'the camera can be subjective with regards to computerized space'[573] and that, as a consequence, it attains a status independent from the player. Galloway recognises a growing influence of affect in cinema, as exemplified in the over-the-shoulder tracking shots of *Elephant* and in the use of bullet time in *The Matrix*. Expanding on the aesthetic account provided by Galloway,

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[572] Galloway bases this concept on Steven Shaviro's definition of 'affective regime of vision'. Cf. Steven Shaviro, 'Regimes of Vision: Kathryn Bigelow, *Strange Days*', *Polygraph* 13 (2001), p. 62, quoted in Alexander R. Galloway, op. cit., 2006, pp. 62–63.

[573] Alexander R. Galloway, op. cit., 2006, pp. 63.

we must recognise that today the cinematic subjective shot is not used only to convey visions of otherness. Although this is accurate with regards to the past, the diffusion of digital audiovisual devices combined with the live aesthetics of television have encouraged an increased presence of subjective shots at the cinema. As described by Bolter and Grusin, immediacy aims at the transparency of the interface that is hence naturalised:

> What designers often say they want is an "interfaceless" interface, in which there will be no recognizable electronic tools-no buttons, windows, scroll bars, or even icons as such. Instead the user will move through the space interacting with the objects "naturally", as she does in the physical world. Virtual reality, three-dimensional graphics, and graphical interface design are all seeking to make digital technology "transparent". In this sense, a transparent interface would be one that erases itself, so that the user is no longer aware of confronting a medium, but instead stands in an immediate relationship to the contents of that medium.[574]

Interfaces are progressively made invisible and this invisibility is achieved through a sense of familiarity with the codes and their interpretation. Television naturalised the use of cinematic audiovisual codes combined with the feeling of liveness that characterised its medium, associated with aesthetic features that break the fourth wall in order to include the spectator within the televised event. Since the commercialisation of home consoles in the 1970s, television became an integral part of the video game apparatus, consolidating the role of the home-screen not only as the literal but also metaphorical locus of virtual presence. Sheila Murphy points at

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[574] Jay David Bolter and Richard Grusin, op. cit., 2000, pp. 23–24.

the necessity of reframing the importance of television in accounts of media history:

> I believe that television's role in digital media history, especially its place in the historical development of digital entertainment technologies like video game systems and computers, should instead be emphasized and understood as crucial to new media history and theory. For the then-new technologies of the 1970s like the personal computer and video game, television lent more than a basic display apparatus; instead, one finds that the literal links between TV sets and (home or video game) computers were established in relationship to the cultural baggage already associated with television by that time.[575]

The author argues for the relevance of televisual discourses to video games due to the technology they share. Most of all, it is the sense of familiarity established by the televisual medium that was then projected on the videoludic one, merging their functions in practice –the possibility of seamlessly switching from one media to the other– and metaphorically –the conceptual contingency of the two being culturally associated: 'The TV-as-monitor strategy allowed manufacturers and users of early personal computer systems to inadvertently naturalize the computer as domestic technology with links (both literally and metaphorically) to television'.[576] Hence, television conferred liveness to video games, associating the presence of an optical recording device not to the past tense of the cinematic image, but to the present-ness of the televisual.

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[575] Sheila C. Murphy, '"This is Intelligent Television" Early Video Games and Television in the Emergence of the personal Computer', in Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader 2*, New York: Routledge, 2009, [pp. 197–212] p. 198.

[576] Sheila C. Murphy, op. cit., 2009, p. 198.

At the same time, liveness and immersion became part also of cinematic discourses. As for video games, a combination of technological evolution (the introduction of digital devices and techniques in film production), audience/users' literacy and remediation of the expressive tools codified in other media, forced and encouraged cinema to further explore the limits of its representation. In *Strange Days*[577], *The Matrix* and *Gamer*,[578] subjective points of view are used to convey immersion and what Galloway rightly defines as "otherness" to address issues of virtuality and vicarious presence in other dimensions. Nevertheless, immersion became slowly part of larger cinematic aesthetic trends, which transcend and exceed the function of highlighting the "exceptional", emulating instead a more televisual and ludic aesthetics of live presence. Video games normalised certain concepts such as that of the *avatar*, going beyond the cinematic notion of the spectator "observing" the characters and moving to the idea of "inhabiting" them. From *Saving Private Ryan*[579], *Blair Witch Project*[580] *The Amazing Spider Man*[581] and up to the contemporary *Gravity*[582] and *Edge of Tomorrow*,[583] the POV shot and the subjective shot are now prominent features of cinema's contemporary aesthetics, dictated by a progressive "sensorialisation" and "materialisation" of the camera that becomes a vessel of visual proximity, reproducing a sense of kinaesthetic immersion by remediating video games. FPSs grew popular on consoles, especially during the 7th generation,[584] moving away from the PC platform and from the discourses of simulation associated with it, embracing instead the televisuality of home-screens.

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[577] Kathryn Bigelow, *Strange Days*, 1995, USA.

[578] Mark Neveldine and Brian Taylor, *Gamer*, 2009, USA.

[579] Steven Spielberg, *Saving Private Ryan*, USA, 1998.

[580] Daniel Myrick and Eduardo Sánchez, *Blair Witch Project*, USA, 1999.

[581] Marc Webb, *The Amazing Spiderman*, 2012, USA

[582] Alfonso Cuarón, *Gravity*, 2013, USA/UK.

[583] Doug Liman, *The Edge of Tomorrow*, 2014, USA/Canada.

[584] Cf. Michael Hitchens, 'A Survey of First-person Shooters and their Avatars', in *Game Studies* v. 11(3) (December 2011). Retrieved from http://gamestudies.org/1103/articles/michael_hitchens (accessed on 30/01/2015).

On a technical level the viewpoint provided in the FPS is purely cinematic in the way that it doesn't imitate human vision, but reproduces an optical perspective. The image-displaying device –the screen– imposes constraints on the type of representation, requiring the codification of the tri-dimensional perception on to a two-dimensional screen. Games such as *Far Cry 3*, *Crysis 2* and *Killzone 3*, offer a vision that does not imitate the human eye, but instead clearly invokes the mediation of an optical device capturing the image. Not only are the movements of the frame equivalent to those of a camera pivoting on perfectly perpendicular vertical and horizontal axes causing the lack of alteration in the angle of vision,[585] but also the field of depth and focus are represented in ways dissimilar from the physical experience of the human eye, and more similar to that of a 'camera eye'.[586]

The photographic nature of the camera eye is confirmed by the number of video games using *motion blur* as a feature to convey the sense of speed and motion of the POV in the environment, pointing at the cinematically mediated nature of the image. Games such as *Crysis*, *Gears of War* and *The Last of Us* use this technique among others to highlight the cinematic character of the event. But also RPGs such as *The Witcher 2*[587] and *Mass Effect* – both of which are representative of a transition to a more cinematic model of role playing game that requires a viewpoint immersed

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[585] The camera system prevents the inclination of the angle of vision in a way that is natural to the human body. For example, when we look at a picture in which orientation is perceived as wrong (vertical instead of horizontal), we would naturally slightly turn our heads to the side, towards the shoulders, to accommodate the orientation of the image. In spite of Nitsche enlisting it as one of the possible camera movements, called 'rolling', this movement is hardly deployed in video games due to the fact that, in accordance with cinematic audiovisual codes, it is considered disorienting, associated with a sense of vertigo. With regards to the concept of 'rolling' cf. Michael Nitsche, op. cit., 2008, p. 82

[586] The concept of the 'camera eye' is often evoked in discourses around video games' anti-montage tendency and used to describe the mechanical eye of the camera that, unlike the human eye, never blinks and does not need any rests. This idea will be further discussed in the following chapters with regards to editing. Cf. Nicholas Rombes, *Cinema in the Digital Age*, London: Wallflower, 2009, p. 40. See also Will Brooker, op. cit., 2009.

[587] *The Witcher 2: Assassins of Kings*, CD Projext Red, 2012, Poland.

within the world rather than one that observes it from high up– make use of this effect. Hence, motion blur stresses on a diegetic level the speed of the action, while on an extradiegetic level it suggests the impossibility for the camera to track movements due to its photographic nature and technical limits. In this sense, motion blur foregrounds the medium by obstructing its vision, by making it opaque it underlines its presence and its role in the mediation process.

Typically racing games, but more generally all those based on fast paced actions such as *Mirror's Edge* and *Need for Speed* in which velocity is a core feature of the experience, prominently feature motion blur as a crucial aesthetic element. Other games, mostly FPS and action games that involve aiming at objects using long range weapons, feature focus filters that limit or expand the depth of field in order to highlight sections of the screen. This effect is a trademark of the *Call of Duty* series, as for example in *Call of Duty 4: Modern Warfare*, and it is especially visible when aiming through rifles.[588] The weapon and the foreground area are placed out of focus, and the shot is developed in deep focus, expanding the depth of field and leading the visual attention of the player to the background, where the target is situated. This effect replicates depth of field much like a camera, focusing on a specific portion of the screen (directing the attention either on the plane in focus or on the effect itself) but leaving visible also the area out of focus in the foreground. Finally, depth of field and focus become a part of the gameplay in titles such as *The Last of Us*, *Tomb Raider* and even more so in *Alien Isolation*.[589] In *Alien Isolation*, which reverses the rules of the FPS genre by requiring the player to avoid conflict,[590] focus is

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[588] When pressing the button designated to the alternate fire mode on certain long range weapons, the player-characters brings it closer to his face in order to aim through the viewfinder.

[589] *Alien Isolation*, The Creative Assembly, UK, 2014.

[590] Although many games and FPSs already experimented with stealth dynamics, *Alien Isolation* is

fundamental whenever Amanda, daughter of Ellen Ripley and protagonist of the game, brings up the motion tracker: the depth of field decreases and the surrounding environment goes out of focus, simulating in photographic terms the attention of the character on the display which, due to the stealth nature of the game, becomes an integral part of the gameplay dynamics. The urgency to keep a clear view over the environment in order to avoid direct conflict with the alien is to be negotiated with the necessity to check the motion tracker to be alert whenever the hostile creature is approaching and possibly look for a hidden spot. The interplay between background and foreground creates a dynamic tension that charges the decision making process of the player, becoming a significant element of the gameplay. Also Nitsche remarks the fundamental role of the camera in establishing interplay between different layers of space, creating dramatic tension through depth. He discusses the example of the *Metal Gear Solid* series and how the camera positions itself in reverse shot with respect to the player-character hiding around the corner waiting for an enemy to come by in order to execute a stealth attack. The visual opposition between the player-character in the foreground and the enemy in the background creates a dramatic tension made possible by the means of the camera and by the codified nature of the shot that creates expectation based on the association with the iconography of specific film genres such as thrillers and noirs.[591]

Returning to Nitsche's classification of camera functions, two other relevant typologies, particularly relevant to cinematic games, are the 'following camera' and

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among the first ones to require the player to fully avoid conflict by presenting a challenge that can never be fully overcome until the end of the game. The alien in the game cannot be killed and is provided with AI that allows it to appear randomly in time and space, forcing the player to be constantly aware of the surrounding environment in order to be ready to hide whenever the creature attacks.

[591] Cf. Michael Nitsche, op. cit., 2008, p. 89.

the ‘predefined view frames’.[592] These categories merge aspects of framing with camera movements in order to provide a synthesis of the function performed by the camera rather than an account of its aesthetic traits. In the definition provided by Nitsche, the concept of the following camera applies to all games in which the camera literally follows the character from medium/long distance from a third-person viewpoint. Thus the following camera does not only describe the position of the camera behind the player-character but also the craning movement performed in order to follow its actions.[593] This definition perfectly describes the characteristics of the camera in the first episodes of the *Tomb Raider* series and its clones. The predefined view frame describes the camera system in games such a *Resident Evil*, but also in adventure games such as *Grim Fandango*,[594] *Blade Runner*,[595] and *The Curse of Monkey Island*, [596] in which pre-rendered backgrounds forced the representation of the environments within static viewpoints. Nevertheless, such large categories that merge perspective, scale of frame and movements, do not not fully account for the complex development of the camera systems deployed by contemporary titles. Like at the cinema (even more so) the scale of field of video game framing is fundamental in order to individuate the function of the shot. Action-adventure games such as *Tomb Raider*, *Uncharted* and *Assassin's Creed* generally feature a default composition that frames the player-character in long shot. Typically this framing technique provides a balance between the character and the environment.[597] The composition aims to frame the character at the centre of the

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[592] Nitsche also identifies the ‘overhead view’, which is not explored here for reasons of space and relevance. In fact, this is often found in strategy games and RPGs, in which a wider view over the environment is necessary to dominate the higher density of characters on screen and to allow their strategic control.

[593] Michael Nitsche, op. cit, 2008, p. 96-99.

[594] *Grim Fandango*, Lucas Arts, 1998, USA.

[595] *Blade Runner*, Westwood Studios, 1997, USA.

[596] *The Curse of Monkey Island*, Lucas Arts, 1997, USA.

[597] Cf. David Bordwell and Kristin Thompson, op. cit., 2004, p. 191.

screen, surrounded by the environment. The scale and composition highlight the importance of the relationship between characters and environments in these games, functional to gameplay dynamics often based on exploration. In this sense, the frame already creates a narrative out of the visual cues that are contained in the image, suggesting relationships between its elements. In fact, these are titles in which the environment is part of the narration just as much as the characters, supporting and/or antagonising the player who needs a clear view on the position of his player-character within it. As the presence of action gameplay dynamics increased the cinematic interface had to be adapted to new purposes, as exemplified in the *Tomb Raider* franchise.[598] Most contemporary titles in third-person feature the possibility

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[598] The *Tomb Raider* franchise perfectly exemplifies the increasing relevance of the action aspects of the game over the explorative elements and their effect on the development of new camera systems. In the first five main chapters of the saga the following camera was automatic. The following camera framed Lara from behind in long shot, constantly adjusting and reframing in accordance with the rotation of the player-character on the z-axis. The camera would occasionally move to Lara's side depending on her proximity to surfaces and objects that would prevent the camera from having the necessary distance from her body in order to accommodate the frame, to the point of creating reverse shot whenever she turns around from a small corner, limiting the camera's manoeuvring space. The player could access a 'look' mode by holding a button on the game pad and use the directional button to orient the camera, which reframes the character in medium shot, positioning the viewpoint closer to Lara's back in order to simulate her look. The instruction manual makes explicit reference to the presence of a camera, hence acknowledging the role of cinematic techniques as a mediator to the activity of the player. Moreover, the controls map and the paragraph dedicated to the explanation of the looking mode prove the relevance of the camera as an integral part of the interface, used to provide the player with access to and control of the game world (Cf. *Tomb Raider* Instruction Manual, Eidos Interactive, 1996). *Tomb Raider III: Adventures of Lara Croft* (Core Design, UK, 1998) was the first game in the series to support the Dual Shock game pad, with the right stick dedicated to the 'look' mode that allows the player to directly control the orientation of the camera without pressing any additional button (Cf. *Tomb Raider III: Adventures of Lara Croft* Instruction Manual, Eidos Interactive, 1998). Nevertheless, the major change occurred in *Tomb Raider: Legend*, the first chapter to be developed for 7th generation consoles, in which the camera can rotate 360° around Lara, granting a full view not only over the environment, but also on the character posing in it, further pleasing the player's gaze. Here the player-character is still framed in long shot, but from a longer distance that allows the visualisation of the many acrobatic moves featured in this title. Moreover, given the default presence of a second analogic stick devoted to the control of the camera orientation, this function – previously activated by pressing a button– is replaced by an 'Accurate Aim Mode' –activated by pressing the same analog stick that controls the camera– in which the camera is positioned next to Lara's head, in semi-subjective shot, while she aims holding the weapon allowing the visual presence of both the player-character and the aimed target object. This reflects the increasingly action-oriented vocation of the title, characterised by more spectacular and fast paced fights in which the difficulty is determined by the quantity of the enemies rather than their quality. Finally, in the instruction manual, the 'look' mode is substituted replaced by the 'camera' control. While in the previous games in the series the camera was referenced in a paragraph explaining the looking function, this function is bypassed in the newer instalment that directly appeal to the players'

to shift the perspective from long shot to a semi-subjective viewpoint, in which the camera is positioned closer to the character, by the side of its head, simulating an aiming look while keeping the character on screen. *Tomb Raider* (the reboot), *Uncharted*, and *Assassin's Creed* all feature this option, which has become a prominent element of the action-adventure genre. During this aiming mode, the camera is locked behind the character, aligned with its look on the z-axis providing a functional viewpoint for the shooting sequences without disrupting its cinematic/voyeuristic third-person appeal. Interestingly, this feature was popularised by *Resident Evil 4*, the fourth chapter of the survival horror saga that up until this point deployed a camera system purely based on static viewpoints. In fact, predefined camera angles, though often regarded as supremely cinematic, were not considered apt to convey a sense of immersion within three-dimensional environments, forcing a fixed perspective on the exploration and consequently limiting the possibility for interaction.[599] Eventually, fixed camera angles became restricted to special instances in order to direct the attention of the player on specific elements in the scene. For examples, titles in which exploration and platform dynamics are important, such as *Tomb Raider: Legend* and *Prince of Persia* and *Uncharted*, use fixed camera angles as establishing shots to provide an overview of the environment and to highlight the path across it. *Uncharted* is a particularly interesting example as the use of fixed camera angles often parallels a diegetic tension when the player-character is left with only one way to progress in the

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knowledge and audiovisual literacy in order to understand the role of the camera as cinematic instance and interface in the game. (Cf. *Tomb Raider: Legend* Instruction Manual, Edios, 2006).

[599] From a techno-deterministic perspective, it can be argued that this camera system did not favour the full showcasing of the potential of three-dimensional graphics. Symptomatic of this dilemma is the fact that *Resident Evil: Code Veronica* (Capcom Production Studio 4, 2000, Japan), one of the spin-offs in the *Resident Evil* saga, tried to combine three-dimensional graphics with static pre-determined camera angles. Although the title was quite well received by the critics, it did not sell as expected and for the new official chapter, *Resident Evil 4*, the team opted to refresh the formula adopting a dynamic following camera system that would suit the new action identity.

environment. In these cases, the fixed camera angle shows the path while the impossibility to interact with the viewpoint mimics the lack of available actions imposed on the character by the extreme context.[600]

Analysing Genette's theory of *focalisation* in relation to video games, Nitsche points out the role of the camera in establishing a point of view for the user and defining his perspective on the events thereby determining the amount of information available to him in relation to the main and other characters; this is categorised as the 'focalizing camera'.[601] As a consequence, Nitsche does not make any distinction between the concepts of *focalisation* and Francois Jost's *ocularisation*, merging the two and concluding that dynamic focalisation, meaning the possibility to change the point of view at any time depending on interaction and the ability of the player to manipulate the camera, distinguishes video game presentation from cinematic techniques. The failure to distinguish between these two concepts prevents Nitsche from recognising how in cinema, even if the audience has no control over the camera, focalisation and perspective over the events flow remain extremely dynamic, being free from the avatar-centric model characteristic of video game productions. What is dynamic in most of the games referenced by Nitsche is the ocularisation,[602] the possibility (most of the time) to manipulate the viewpoint through camera movements and angles.

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[600] 'Chapter 1 – A rock and a Hard Place' in *Uncharted 2* and 'Chapter 7 – Stay in the Light' in *Uncharted 3* are brilliant examples of these techniques that reconcile cinematic direction with diegetic events conveying a sense of coherence in the stylistic choices. As highlighted in the previous chapters, they both present sequences that involve vertical exploration under extreme conditions. In the first case, Nathan wakes up inside a train coach hanging off a cliff and about to fall. As Nathan makes his way through it, the vehicle slowly falls apart forcing the camera to move and reframe the scene according to the coach changing position. Even more so, in the second example a burning chateau creates the perfect setting for a constantly shifting environment that forces the path of the player. Accordingly, the camera assumes fixed positions while the environment is on fire, showing a way across it while at the same time dramatizing the action.

[601] Michael Nitsche, op. cit., 2008, p. 146.

[602] As opposed to focalisation, which determines the perspective provided by the narrative instance in terms of knowledge and information, ocularisation is the establishment of a visual viewpoint within the film.

What is most interesting in the definition of a focalising camera is how Nitsche hints at its capacity to mediate the player-character's psychological and physical perception:

> At the same time, the focalizing camera tries to present Max's internal perception of the surrounding game world, distorted as if seen while on drugs. It includes color filters, paths of blood, distorted architecture, and foggy abysses that have no counterpart in the realistic style of the rest of the game.[603]

According to Nitsche the cinematic camera becomes a 'performing camera' as the 'interconnection of action and presentation shifts the virtual camera from a presenting device to an interactive cocreative one'.[604] Hence the camera is considered as a creative tool within the interactive experience, an interface that develops a game within the game asking the player to frame its own performance.

The cinematic character of the virtual camera has been increasingly manifest in recent productions also in relation to the depth of field and focus. Beyond Nitsche's 'performing camera',[605] video games increasingly present complex camera characteristics, reflected in framing and composition, which not only mediate the representation of the virtual world and the actions of the player-character in it but, at the same time, convey the player-character's experience, in order to establish a strong connection between the player and its vicarious body in the virtual world. From the physical presence of the camera within the environment to its attachment to

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[603] Ibidem, p. 147.
[604] Ibidem, p. 112.
[605] Ibidem, p. 116.

the player-character's body, used in order to convey its bodily and mental experience, the camera in modern video games seems not only to be a representative and performative object, but also a sensorial and emotional one, pointing towards the development of *embodied* and *empathic* qualities. Geoff King and Tanya Krzywinska noted some of these emerging characteristics several years ago:

> Distortion of the *player's* perspective within the game-world also results when the character of *Max Payne* is forced to take drugs or when drinking alcohol in *Ever Quest*, where the perspective lengthens and bends like the effect of a fish-eye lens. Games that permit both first- and third-person modes can also create oddly mixed perspective states in some circumstances. If *Grand Theft Auto: Vice City* is played in first person, for example, it seems appropriate that droplets from on the screen when it rains, especially when driving (droplets on the screen when on foot might be a loose approximation of rain being experienced by the individual; when in a car, they are more realistically motivated as droplets on a windscreen, even if far fewer drops appear than would equate with the level of rainfall).[606]

Many titles simulate liquid refraction against the camera in order to explicitly show the presence of the mediating device. In *Red Dead Redemption* the rain drops pour on the screen when entering in contact with the virtual camera, especially when the camera is shooting from a lower angle, while in *Gears of War 3* the blood coming from physical fights splatters against the camera and sticks on the screen. The physicality of the camera is also highlighted by the simulation of irregular

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[606] Geoff King and Tanya Krzywinska, op. cit., 2006, p. 102.

oscillations while the player-character explores the environment or when it is hit by something or someone. Describing the camera system in the *Gears of War* series Bernard Perron compares it to a steady-cam attached to the body of the characters. The camera vibrates whenever Marcus (the protagonist) runs or gets hit/shot, establishing a direct relation between the action and the camera in order to further (im)mediate the events on screen to the player.[607] Through the use of audiovisual cues, the virtual camera imitates the style of documentaries, newsreels and reportages, aiming to convey a stronger sense of presence on the field and realism through codified audiovisual tools. Instead of exclusively emulating Hollywood transparency and invisibility, video games seem to borrow expressive elements from other audiovisual typologies associated not with the reproduction of a fictional world, but instead the representation of "real" events. Nevertheless, no matter the level of realism intended for the depiction of the world, the premise relies on a recording device capturing the event. The presence of the camera is increasingly made explicit, stating its function as a witness in the virtual environment, testifying to the existence of the environment itself. These elements suggest the development towards an *embodied camera* model: the camera is embodied, meaning it is simulated as a physical entity that demonstrates its ontological manifestation. Like in the real world, the camera then occupies a certain space within the environment, which must be taken into account when it performs manoeuvres around the characters. This apparently insignificant aspect is dramatically highlighted in the case of inefficient camera systems. As underlined by Newman, at the beginning of the 1990s players become increasingly aware of the presence of cameras in video games, a phenomenon generally associated with the emergence of 3D video games:

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[607] Cf. Bernard Perron and Carl Therrien, op. cit., 2009, p. 48.

> We should remember also that from the point of when *Super Mario 64* took platform games into three dimensions, players have either been presented with an explicit set of 'camera' controls, which are separate from the controls used to perform within the game, or have had their attentions drawn to the existence of a computer-controlled camera through the ostentatious establishing pans and swoops through and across the gameworlds.[608]

As a result, it is increasingly often the case that games are criticised for their camera controls or incoherent behaviour, bringing attention to camera systems and camera management as a fundamental element on both the sides of the game design and game play. This point is verified in the prolific production of critical material dedicated to this topic.[609] Games such as *Tomb Raider* and *Resident Evil*, both heavily invested in the representation of the relationship between the characters and the environment, have elicited a lot of criticism with regards their issues in camera management. The failure of the experimental sixth chapter in the Tomb Raider franchise, *Tomb Raider: Angel of Darkness*,[610] is often attributed to the erratic behaviour of the camera and the consequent impossibility of precisely controlling character movements, resulting in a frustrating experience in environmental exploration, which is one of the main features of the franchise.[611] Fundamental to

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[608] James Newman, op. cit., 2013, p. 137.

[609] Not only are there a vast array of manuals for game designers that dedicate specific sections to camera systems and camera control management such as Scott Roger's *Level Up: The Guide to Great Video Game Design* (Chichester: John Wiley & Sons, 2010) and others that address this topic with entire volumes such as Mark Haigh-Hutchinson's *Real Time Camera: A Guide for Game Designers and Developers* (Burlington MA: Morgan Kaufmann Publishers, 2009), but also specialised web-sites such as *Gamasutra* showing a prolific production of articles and attention to this fundamental aspect in the design process.

[610] *Tomb Raider: Angel of Darkness*, Core Design, 2003, UK.

[611] Cf. Greg Kasavin, 'Tomb Raider: The Angel of Darkness Review', in *GameSpot* (02 July, 2003). Retrieved from http://www.gamespot.com/reviews/tomb-raider-the-angel-of-darkness-

this end is the correct implementation of camera collisions with the rest of the virtual space that, if not correctly calibrated, can result in awkward and unrealistic viewpoints that break the “fourth wall” revealing the fictional structure of the game. These moments can create surprisingly comic effects that are often the object of paratexts and commentaries such as videos and articles.[612]

The embodiment of the camera can occur in two main ways: through a diegetic camera or recording device that is placed in the environment to capture the player-character actions; or as a mediating instance placed within its body, that allows the player to watch through its eyes. In third person shooter games, such as *Gears of War*, the camera is often presented as a tool recording or (more appropriately) streaming the events for the player to witness them reinforcing the suspension of disbelief. In such cases, the camera can be of two types: diegetic or non-diegetic. The non-diegetic camera, is the one most commonly found. The majority of video games, such as for example *Tomb Raider*, *Uncharted*, *Resident Evil*, *Grand Theft Auto* and *Dead Space*, use a non-diegetic system of representation, according to which the characters remain unaware of the presence of a recording system which is not justified within the diegetic world. Other video games make explicit reference to the diegetic presence of the camera. The first of this kind is probably *Super Mario 64*, while in contemporary titles such as *Metal Gear Solid 4* and *Gears of War* the pervasiveness of technology and the constant presence of invisible machines

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review/1900-6070883/ (accessed on 20/11/2014). See also Kristan Reed, ‘Tomb Raider: Angel of Darkness – Adventurous return or the final insult?’, in *Eurogamer.net* (25 June, 2003). Retrieved from http://www.eurogamer.net/articles/r_tombraideraod_ps2 (accessed on 20/11/2014).

[612] Camera problems and glitches are the object of fan videos also with regards to many of the chapters of *Tomb Raider*. Cf. PewableShift (user ID), ‘Tomb Raider (2013) Camera glitch’, in *YouTube* (26/03/2013). Retrieved from https://www.youtube.com/watch?v=1lCCNYLfWA0 (accessed on 26/02/2015). Cf. also TheAlexis3D (user ID)‘Tomb Raider Underworld – Camera bug’, in *YouTube* (11/05/2014) Retrieved from https://www.youtube.com/watch?v=Jtm9yy9zJ5s (accessed on 26/02/2015).

following the characters, which show themselves at times, suggest the possibility, and the plausibility, of the diegetic nature of the camera. Moreover, as previously seen, even in those games that do not claim a diegetic system of representation, the presence of the camera is simulated in the environment through a number of effects such as liquid refraction, or a frosted gloss on the camera lens (depending to the weather conditions) that are cues of the presence of a physical window onto the diegetic world. An example of this is provided in *Crysis*:[613] during the episode 'Frozen Paradise' the image is blurred by a layer of ice on the helmet of the avatar. Due to the advanced technological setting of the game, the player is encouraged to assume the presence of a remote camera within the helmet of the avatar that allows him/her (the player) and some other auxiliary characters to follow the action. Hence, also in this case, the subjective POV does not reference a human vision, but a mechanical and photographic one. In fact, although many video games do not make explicit reference to the presence of recording devices attached to the characters, the social/political/technological background of the narrations encourages the player to infer the presence of a recording or broadcasting device. Philip Hayward and Tana Wollen point at the importance of mechanic devices of representation as metaphors for different types of knowledge. They use the concepts of sight and vision to describe the difference between the act of seeing and knowing. The two authors describe sight with the metaphor of the camera-eye:

> In order to comprehend the changes and possibilities new technologies might generate, we need to shape new metaphors. As surrogate eye the camera lens has served well, as a mechanical medium between the real world and its analogical representations it has assumed the equivalence of

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[613] *Crysis*, Crytek, Electronic Arts, Germany, 2007

> sight merely by delivering what the eye can see. To sight, in Western culture, are attributed other virtues, namely knowledge and control. To see is to know, to survey, to control – now epitomised in the computing-speak WYSIWYG (what you see is what you get). The camera in reportage, in closed-circuit surveillance, in the nose of a smart missile, is sight-knowledge-control. It is outer vision, the external perspective which has become privileged in the new habitual camera/eye analogy, perhaps reinforcing the prevalent fixation in Film and Media Studies on realism as the dominant ideology in representation.[614]

The materiality of the cinematic image that emerges through imperfections is also tied to the acknowledgement of the device that produces it. Nanna Verhoeff uses the metaphor of the 'window' to explain the process by which the materiality of the surface comes forth and is made manifest to the user.[615] According to her:

> When the screen functions as a transparent window, it is invisible as object. It is when it is opaque that its materiality, its thing-ness, surfaces. This paradox of non-functionality that correlates visibility to thing-ness is particularly intriguing in the case of the screen. [616]

In *Metal Gear Solid 4*, when Snake uses his proxy camera-robot Metal Gear Mk. II to explore the map, the limits of the robot's autonomy from Snake's remote control

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[614] Philip Hayward and Tana Wollen*, Future Visions: New Technologies of the Screen*, London: British Film Institute, 1993, p. 5.

[615] Anne Friedberg develops analyses the material and conceptual history of the window as an ideological engine that predates and informs screen culture. Cf. Anne Friedberg, *The Virtual Window*, Cambridge, Massachusetts: MIT Press, 2009.

[616] Nanna, Verhoeff, *Mobile Screens: The visual Regime of Navigation*, Amsterdam: Amsterdam University Press, 2012, p. 83.

are conveyed via visual noise that is displayed on the screen whenever the robot is too far away. During these sections of the game, the player directly controls the robot to explore the map and locate enemies' position, to understand their patrol patterns and find a path through the environment. If the player was given the ability to freely move the bot across the map, the challenge of the game would be significantly decreased allowing the player to use Mk. II to identify all the threats in the environment while leaving Snake in a safe spot. For this reason the robot can only work within a certain range from Snake, forcing the player to move forward in order to explore new areas of the map. These spatial boundaries are conveyed via audiovisual cues: whenever Mk. II is about to move beyond the allowed range of action, a visual noise appears on screen imitating the interferences caused by the bad reception of a radio signal. The deployment of such audiovisual strategies points at the material constraints of a remote camera that works symbiotically with the Mk. II robot. When the robot wanders too far from Snake, the camera empathically shows the malfunction of the machine, providing a diegetically coherent and functionally seamless way to convey this information to the player. This example also highlights the possibility of merging the embodied and the empathic functions of the camera within the same instance. These two aspects are connected by their sensuous nature. The embodied camera is defined by its weight and materiality within the virtual environment, and the simulation of the physical presence of the device thus behaves in a believable way. But the sensuousness of the camera is highlighted also through its empathic quality. As underlined by Verhoeff the presence of a mediating device is made manifest whenever the screen loses visibility, obstructing the look, thus revealing an impediment stopping the device from mediating viewing. For this reason, whenever a halo or a shadow appear on screen, signalling the altered status of the player-character and mediating its perception, or when elements such as water, mud and blood splash on the lens, the mediating device is exposed. As the surface of the "window" becomes opaque, the medium emerges, literally becoming less transparent. The importance of imperfections testifying to the materiality and thingness of the moving image is also debated in relation to the increasing digital nature of the cinematic image:

> One of the main claims of this book is that, haunted by the spectre of perfection, there is a tendency in digital media – and cinema especially – to reassert *imperfection*, flaws, an aura of human mistakes to counterbalance the logic of perfection that pervades the digital.[617]

Devices such as screens, cameras, phones are increasingly adopted in video games to establish the reliability of the representation on a diegetic level and justify the mediated vision of the player in the game world. Through these devices the materiality of the mediation comes forth, often acknowledged by means of diegetic justification. The implementation of modes of vision mediated by electronic devices is a signature of some genres such as the stealth game, like in franchises such as *Splinter Cell*. In *Splinter Cell: Blacklist*[618] the protagonist, Sam Fisher, can use a flying drone to secretly and safely infiltrate and explore new areas of the map. Similarly to *Metal Gear Solid 4*,[619] although the camera shows the drone from a third-person perspective, the image produced by the virtual camera still reflects the

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[617] Nicholas Rombes, op. cit., 2009, p. 2

[618] *Splinter Cell: Blacklist*, Ubisoft Toronto, Canada, 2013.

[619] It is not by chance that both series fall under the label of the stealth game. Tropes and iconography from adjacent film genres are implemented and adapted in video games, translated through audiovisual strategies that reflect and reinforce gameplay mechanics.

drone's digital vision. In the survival-horror *Outlast*[620] the protagonist's main tool is a digital camera used in order to see in the dark.[621] Whenever the player reaches a dark area, the player-character can use a camera functioning as both binocular, in order to zoom and analyse dangerous situations from afar, and as night-vision device. When the player-character looks through the camera, the screen shifts to an infrared mode in which only the centre of the image is clearly visible while the corners of the screen are covered by a dark halo. Not only is the infrared camera vision a signature of contemporary horror cinema iconography, but these modes of vision also point towards the hypermediation of the cinematic device. In fact, when the player-character pulls out the camera, opening the digital display at the side to look at the infrared screen, the image on the display aligns with the game camera and the two frames merge. The frame of the camera display in the game occupies the entire screen outside the game, substituting the HUD with the interface of the camera (the battery life and indicators of image quality). This emulates the player-character's look through a viewfinder that takes up all its field of vision, although in this case the little screen of the digital device does not suggest the need for such a perspective. The video game camera – providing the first-person POV– and the in-game camera's display –the one turned on by the player-character to see through the dark areas– merge, recalling the modes of vision of a faux documentary, such as *The Blair Witch*

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[620] *Outlast*, Red Barrels, Canada, 2013.

[621] In *Outlast*, Miles Upshur is a journalist who follows an anonymous tip to investigate events happening in an asylum located on Mount Massive, in Colorado. Once the protagonist reaches the institute, he finds out that the psychopathic patients have escaped and has to investigate the actions of a cult in order to escape. Although it uses a first-person POV, the game fits the survival-horror genre as the constraints that are the signature of this type of game are translated and adapted to this perspective. Like in *Resident Evil*, one of the major challenges in the game is to master a clear vision of the environment. While in the first three chapters of Capcom's saga this difficulty is provided through the use of fixed POVs that prevent the player from seeing what is ahead, in *Outlast* a similar concept is translated through the need to handle the digital camera in order to be able to see through the dark areas of the map.

Project,[622] which has become one of the most popular horror sub-genres.[623] Alexander Galloway describes this effect in the *Blair Witch Project* as a 'interesting invention of a sort of "camcorder subjectivity," [which] while not a subjective shot per se, nevertheless parallels the techniques of the subjective shot to heighten the sense of disorientation and fear'.[624] The example of *Outlast* is possibly one of the most explicit in establishing a direct link between the first-person POV –often used as an example of an anti-cinematic mode of vision in video games– and the cinematic subjective-shot. The camera in this game is the device through which the cinematic character of the first-person POV is diegetically justified and further used as amplifier to the (photo)realistic quality of the game. In this sense, the synthetic character of the video game image is imbued with "realism" by the indexical quality of the cam-recording, regardless of the digital nature of the device.

> And indeed traditional theorists, realizing that moving pictures may be generated without a physical imprint, have experienced their foreboding escalate into panic. Does not cinema require a source or referent in the world? And even if captured by a (digital) camera, motion pictures can now be manipulated at will, as in animation. Yet the documentary has never been more in the forefront of discussion, as questions about the trace, visual memory, and authenticity – often alluding to André Bazin – have returned with real force. Philip Rosen and Thomas Elsaesser, for example, have deflated the apocalyptic rhetoric that accompanied the first digital cameras, arguing that in the main they serve the same function as

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[622] Daniel Myrick and Eduardo Sánchez, *Blair Witch Project*, USA, 1999.

[623] Among other, recent examples of horror faux documentary, deploying the infrared vision as an expressive tool, two of the most famous are *Rec* (Juame Balagueró and Paco Plaza, Spain, 2007) and *Paranormal Activity* (Oren Peli, USA, 2007). These films generally use the finding of a camera recording as narrative pretext to assert the supposed reliability of the events.

[624] Alexander R. Galloway, op. cit., 2006, p. 49.

> did their analogue predecessors, to record the world set before them.[625]

As mentioned before, another characteristic of contemporary video game productions is the empathic capacity of cameras. Through visual cues such as vibrations, red auras and black and white shots, the camera conveys the player character's physical and psychological conditions. Going back to Hayward and Wollen arguments on the camera-eye, not only does it epitomise the concept of knowledge through the metaphor of the mechanical look, but it also opens up possible alternative "sights", such as inner vision:

> The camera lens as portal to inner vision, yielding access to the imaginary, is a less familiar construction. Nevertheless, the camera does offer dual entry to the outer world (sight) and to the inner world (vision): it documents *and* makes magic. If sight is associated with the rational and vision with the irrational, how are the analogies with the camera lens stretched when our access is obtained through computer interfaces, data gloves, goggles or sensor helmets? How are objectivity and subjectivity skewed?[626]

For example, as highlighted in previous chapters with reference to the use of colours, titles such as *Gears of War 3* and *Uncharted 3: Drake's Deception* use progressively desaturate to black and white to indicate the increasingly stressed condition of the player-character. In *Gears of War 3*, *Uncharted 3: Drake's Deception* and *Red Dead Redemption*, whenever the player-character is injured or suffers some damage the

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[625] Dudley Andrew, op. cit., 2010, pp. 2–3.
[626] Philip Hayward and Tana Wollen, op. cit., 1993, p. 5.

screen progressively turns red, from the edges towards the centre, indicating the deteriorating health condition of the character. In addition, in *Uncharted 3: Drake's Deception* the screen turns monochrome, simulating the loss of consciousness of the character through the colour desaturation. This technique provides a tool of empathic immersion, mediating the experience and the pain of the player-character to the player, while decreasing the clarity of the image conveying the fainting sensation of the character. Geoff King and Tanya Krzywinska highlight how this trait is not restricted to specific genres such as first and third-person shooters, in which the individuation of a single player-character and its proximity to the camera may intuitively justify the empathic character of the representation, but it extends also to strategy games, in which the player controls multiple characters and the camera frames the action in extreme long shot from an overhead view:

> An ersatz impression of physical impact is quite common in the form of a shaking of the image at moments of impact on the player-character, a device that contributes to the sense of immersion in first-person games and is also used on occasion from the more distanced perspectives of a strategy game, as in the case of large in-game explosions in *Command and Conquer: Generals*.[627]

Here the camera's vibrations testify to its embodied character. It shows its presence within the environment and its physical reactions to explosions, while signalling its empathic ability, conveying the damage suffered by the characters and by the environment to enhance the dramatic tension. Other games, such as *Fallout 3*,[628] *The*

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[627] Geoff King and Tanya Krzywinska, op. cit., 2006, p. 110.
[628] *Fallout 3*, Bethesda Games Studios, 2008, USA.

Last of Us and *Battlefield 3*,[629] use focus as an empathic tool for the camera to convey characters' injuries and loss of consciousness, as the depth of field is progressively reduced. Even closer to cinematic tradition is the use of this feature in *Fallout 3*, *Bioshock*,[630] and *Grand Theft Auto V*, which deploy motion blur and reduction of depth of field in order to convey the altered perception of the player-character affected by alcohol, drugs or even radiation sickness. Just as previously seen in the previous chapter with regards to *Uncharted 3*, filters and distortions are applied to the camera to mediate the sensorial experience of the characters, transforming the game's visual interface into an empathic bridge.

The process of audiovisual codification is stratified beyond the video game medium and takes place through cinema, but also through other audiovisual media that have codified this language and the ideologies connected to it. Sport games and fighting games[631] (or beat-em-ups) and all those titles that portray an agonistic event for which the focus and centre of interest is the spectacle of competition segmented matches – whose narrative meaning is self-contained without interest in progression– use expressive tools which evoke the idea of a televised event. Reflecting on the remediated nature of sport games' aesthetics, James Newman highlights the relevance of television as medium that participates in the codification of video games' audiovisual language:

> Bolter and Grusin's (2000) concept of remediation presents us with one way of looking at the issue. If we examine a recent driving game, football

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[629] *Battlefield 3*, EA Digital Illusions, 2011, Sweden.

[630] *Bioshock*, 2K Boston, 2007, USA.

[631] Fighting games are defined as: 'Games involving characters who fight usually hand-to-hand, in one-to-one combat situations without the use of firearms or projectiles. In most of these games, the fighters are represented as humans or anthropomorphic characters.' Cf. Mark J. P. Wolf, op. cit., 2007, pp. 124–125.

> game, or indeed almost any sports game, we note the way in which their truth claim derives in the main from their ability to represent televised coverage of the sport in question rather than a simulation of participation in it.[632]

Generally in fighting games the camera frames the action by positioning the viewpoint on one of side of the stage, from a neutral angle that places the two fighters on a horizontal field from which they face each other. This technique is inherited from the tradition of 2D fighting games and offers to the player a perspective similar to that presented in televisual iconography of boxing matches. Here the camera tries to encapsulate the action within the margins of the frame from a distance that allows it to contain both fighters regardless of their position in the stage. From a gameplay perspective, this viewpoint enables the player to see the actions of the player character and of the opponent and strategically react during the match, providing a perspective that dramatically keeps the fighters on screen –often via pans and zooms– within the same eye-line. As explained in video game design manuals, this is especially important considering the heavily multiplayer-oriented nature of these titles for which 'both players (or more, potentially) wish to see their character remain on-screen. Clearly, if the distance between the characters increases, then the camera must pull back from the characters and/or increase the field of view'.[633] Also in this case, the cinematic quality of the genre has increased over the past ten years, and, for example, titles such as *Street Fighter IV*[634] feature micro-cutscenes that reward specific combos executed by the player, but are also used as

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[632] James Newman, op. cit., 2013, p.137.
[633] Mark Haigh-Hutchinson, op. cit., 2009, p. 259.
[634] *Street Fighter IV*, Capcom, Japan, 2008.

tools to establish the pace of the game in order to dramatize action. Moreover, in games such as *Soul Calibur V*[635] and *Tekken 6*[636] not only does the camera move around the stage producing a circular spectacle with which the match can be observed from any point, but it also presents the empathic character that is the signature of hyper-real camera mediation. In fact, the camera shakes and trembles as the player-character is hit and falls to the ground, acting almost like a steady-cam attached to the character's body, that physically transmits on to the camera the vibrations and hits, while also empathically representing its pain to the player. The ability of the camera to visualise the pain of the player-character is brought to extremes in some recent productions such as *Injustice: Gods Among Us*[637] and the remake of *Mortal Kombat*.[638] These games include a camera system that emphasises successful combos and moves performed by the characters by presenting it through a close-up shot revealing the internal damage suffered by the characters.[639]

The relevance of televisual codes in video games is also related to certain social practices associated with them. Not only are these means used to convey significant gameplay elements, pace and dramatic action, but they are also functional to spectator practices. *Tekken Tag Tournament 2*,[640] for example, features a *spectator mode* that allows the players to watch the matches of others online, in order to learn game strategies, but also to celebrate particularly talented players and stimulate the growth of a fan community for the title. In addition, the spectatorial practices

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[635] *Soul Calibour V*, Project Soul, Japan, 2012.

[636] *Tekken 6*, Namco Bandai Games, Japan, 2009.

[637] *Injustice: Gods Among Us*, NetherRealm Studios, USA, 2013.

[638] *Mortal Kombat*, NetherRealm Studios, USA, 2011.

[639] The shot displays an X-ray of the body section hit by the opponent, showing traumas such as broken bones and internal bleeding, that aim to emphasise the power of the blow and the overall violence of the fighters. Clearly, in this case the empathic character of the camera is slightly different, as it tends to spectacularise the sufferance of the character rather than convey it in a functional way to signal its state to the player.

[640] *Tekken Tag Tournament 2*, Bandai Namco Games, Japan, 2012.

associated with these titles are now growing beyond the margins of the videludic text, through paratexts and transmedia experiences offered through a wide range of communal contexts in which the gaming session is shared with others, both in person or online. This confirms the importance and relevance of practices of spectatorship in video games and the relevance of audiovisual codes able to convey these performances in an interesting and engaging way. With regards to audiovisual style in video games, Aki Järvinen argues that:

> As an audiovisual style of games, photorealism has its subcategories. These are televisualism and illusionism. The first is especially apparent in sports simulators (e.g., the popular FIFA and NHL series by EA Sports). First and foremost, they simulate the aesthetics of sports event television broadcast. The dynamics of the sport becomes often secondary to the pursuit for televisualism. The conventions of sports televising become apparent in, e.g. the instant replay and multiple camera view features in the game.[641]

These titles presume the presence of an mediating instance there to record the event, to testify to its happening and to allow the audience to take part in it. Especially in the case of *sports* or *racing games*, such as *FIFA 12*[642] or *Gran Turismo*,[643] the televised character of these events which is conveyed to the player, causes him/her to assume the presence of a mediating instance that delivers the representation of the event on screen. This feeling is amplified by the presence of features such as

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[641] Aki Järvinen, ‘Gran Stylissimo: The Audiovisual Elements and Styles in Computer and Video Games”, in Frans Mäyrä (ed.), *Proceedings of Computer Games and Digital Cultures Conference*, Tampere: Tampere University Press, 2002, [pp. 113–128] pp. 121–122.

[642] *FIFA 12*, EA Canadada, Electornic Arts, Canada, 2011.

[643] *Gran Turismo*, Polyphony Digital, Japan, 2010.

commentaries, instant replays, reverse angles, that imply the presence of a complex shooting apparatus surrounding the event. The use of these tools in the virtual environment, reifies the event and testifies to its phenomenological realism making it, indeed, more 'real', hence more believable to the player.

Other popular representational codes have been derived from Japanese animation, A tradition which has become a fundamental part of video games' expressive palette – first rudimentarily evoked in 3D games such as *Oni*[644] and *Shogo: Mobile Armor Division*[645] and finally with better success in *Final Fantasy VII*[646]– to the point of being codified through a specific technique, cel shading, now often used also in products unrelated to Japanese culture. Cel shading has come to stand for a more general connection to comic-books and cartoons, used in order to establish intertextual and transmedial relationships in terms of both contents and style. For example, the most recent game in the *Dead Island*[647] franchise, titled *Escape Dead Island*,[648] uses cel shading as a form of visual subversion against the photorealism of the original chapter.[649] This technique has been extensively deployed for the videoludic adaptation of popular Japanese animation series such as *Dragon Ball*, *Naruto* and *One Piece*, exemplifying the layered nature of audiovisual codes across multiple media. These games reflect the influence of cinema on both Japanese manga and animation. On a theoretical level, as seen in the previous chapter, its iconic and symbolic status, as opposed to the indexical one of photography, has been used to

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[644] *Oni*, Bungie, USA, 2001.

[645] *Shogo: Mobile Armor Division*, Monolith Productions, USA, 1998.

[646] *Final Fantasy VII*, Square Co., Japan, 1997.

[647] *Dead Island*, Techland, Poland, 2011.

[648] *Escape Dead Island*, Fatshark, Sweden, 2014.

[649] Apart from producing an edulcoration of the violence in the game, the comic-like style associated with the zombie-themed contents appeal to the success of transmedia products such as *The Walking Dead* comic books and video games (Telltale Games, USA, 2012), one of the most successful games in the year of its release.

connect animation to video games. With reference to CGI animation, Paul Ward, for example, retraces a theoretical genealogy of video games as directly connected:

> It seems obvious that there is considerable overlap between animated films made by using computers and videogames that consist of animated characters and actions. They are two manifestations (or applications) of the same technology. It is important to note, however, that animation as a distinct category (which is to say, *all* animation, even the most 'traditional' types such as cel, puppets, claymation) has some useful theoretical common ground with digital imagery (whether that imagery is used in a film or a game).[650]

The author concludes his reflection stating that the 'ontological gap' between video games and animation is 'much smaller than in the case with other games. […] It appears, therefore, that such computer animated films and games offer a particularly instructive example of the process of remediation. While they both clearly oscillate between immediacy and hypermediacy, they also both exist as *animation*'[651]. With specific attention to Japanese animation Martin Picard notices that the encounters between the two media in Japan are even more frequent, with a high number of titles being adapted across manga, TV animation and video games, creating a strong synergy that is reflected also at the industrial level: 'Consequently, almost every popular manga and animé have been adapted into video games in Japan, with increasing numbers of them being imported into Europe and North America'.[652]

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[650] Paul Ward, 'Videogames as Remediated Animation', in Geoff King and Tanya Krzywinska (eds.) *ScreenPlay: cinema/videogames/interfaces*, London: Wallflower Press, [pp. 122-135], p. 123.

[651] Ibidem, p.133.

[652] Martin Picard, 'Video Games and Their Relationship with other Media',in Mark P. Wolf (ed.), *The video game explosion: a history from Pong to Playstation and beyond*, Westport, Connecticut:

[redacted]

Figure 17 - ***Naruto Ultimate Ninja Storm***

Naruto Ultimate Ninja Storm,[653] (Figure 17) for example, surpasses the frontal audiovisual conventions of classic fighting games, providing a more dynamic viewpoint on the action. The camera frames the action from behind one of the fighters, dynamically switching between the two of them depending on their proximity to its body, constantly negotiating its attachment to the characters during the fight. Thus the match is framed in deep focus, establishing the dramatic relationship between the characters through the spatial opposition of foreground and background. In addition, the game offers the possibility of throwing the opponent against the vertical surface that bounds the arena, offering spectacular actions that expand the fighting field beyond the horizontal dimension, towards a vertical one. Here again the sense of verticality is provided by means of the camera, which frames the action *en plongée*. The acute angle of the camera on the subject suggests a

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Greenwood Press, 2008, [pp. 293–300] p. 297.

[653] *Naruto Ultimate Ninja Storm*, CyberConnet2, 2008, Japan.

peculiar position in relation to the ground level, evoking a sense of gravity and providing the player with visual cues to read the exceptional nature of the action. The game also features special moves and combos that are displayed with cuts, panning, reverse shots and even cranes, aiming at recreating a similar visual experience to that offered by the animated series.

[redacted]

Figure 18 - ***Tomb Raider***

The *Tomb Raider* reboot (Figure 18, Figure 19) provides one of the most clear and intensified examples of the embodied and empathic camera. The camera shakes as Lara runs through the environment, emulating a hand-held camera even more vividly than in titles such as *Gears of War*. In fact, in *Tomb Raider* the shaking camera not only signals its physical presence as a recording device within the diegetic world and the narrative tension associated with this style, but also the vulnerability of the female protagonist in a hostile environment. Remi Lacoste (lead camera designer of the title) describes the role of the camera as the 'narrator' and 'soul' of the game.[654] The game classically begins with a cut scene that shows Lara's boat sinking and her falling in the water. Through a fade to black in subjective shot, which conveys Lara's loss of consciousness after the impact with the water, the game switches to another cut scene. This time the scene is created using the game engine, establishing the aesthetic tone of the game experience. Lara reaches the shore and, while trying to call her friends on top of the cliff, she is attacked by a stranger and loses consciousness again. The first level begins with a subjective shot of a dark environment. Through the use of fades in and out that represent the character slowly regaining consciousness, the images are alternated with the title credits, reinforcing the cinematic appeal of the production via extradiegetic means. The blurred images combined with the sound of striking ropes anticipate the close-up of Lara suddenly waking up with her hair upright. The camera oscillates reproducing the motion sickness that signals Lara's uncomfortable position. As she fully wakes up, the camera rotates revealing her upside-down position tied up and hanging by the feet inside a cave. The camera seamlessly transitions to an interactive sequence in which

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[654] Cf. Remi Lacoste (Lead Camera Designer at Crystal Dynamics), 'Creating an Emotionally Engaging Camera in Tomb Raider', talk given at the GDC (Game Developers Conference), San Francisco, CA, (25–29/05/2013). Retrieved from http://www.gdcvault.com/play/1018141/Creating-an-Emotionally-Engaging-Camera (accessed on 25/02/2015).

the player can swing Lara using the analog-sticks on the pad.

[redacted]

Figure 19 - ***Tomb Raider***

As the player-character gains speed, the camera follows her swinging movement (Figure 19) transitioning to a *plongée* position to anticipate her fall and create suspense. A short cut-scene shows Lara falling to the ground. The impossibility for Lara to avoid the impact is paralleled by the impossibility for the player to control the camera and the POV. Hence the camera switches to a reverse shot, framing the player-character in *contre-plongée*, the camera lying on the ground next to an iron rod to emphasise the height and dramatizing the unavoidable impact with the metal shard. Lara gets on her knees, trying to pull out the piercing object from her abdomen. Again the fixed camera angle in *plongée* emphasizes the vulnerability of the character, making her smaller, and underlining the urgency of the action that is, for this reason, the only possible one at that time. In this sense, the presence of a QTE –during which the player loses the normal level of control over the character and the POV that is established by the game leaves him/her with fewer context-specific opportunities for interaction– is justified on a diegetic level by the injured state of the character. When Lara manages to extract the rod, the screen turns black and white signalling, as seen in suggested in chapter 3, her loss of blood though a colour haemorrhage. According to Lacoste, the camera in *Tomb Raider* has to be capable of not only 'supporting gameplay', but also of 'evoking emotions'.[655] Lara's pain and shock are further highlighted by the lack of depth of field and by the use of motion blur which convey in extradiegetic audiovisual cues the psychological and cognitive state of the character. As she leans on a wooden post, still hurting from the fall, the camera accommodates her movement by slightly lowering in height. As Lara turns noticing a corpse tied to the wall in front of her, in what seems like a ritual chamber, the camera zooms in conveying the sense of looking through her eyes, or the camera-eye that identifies with them. The diegetic event provides the pretext for a predefined POV as the character, in pain and shocked, is unable to move and her attention is attracted by the central element in the frame composition, also underlined at the level of mise-en-jeu via perspective (in line with the vanishing point being suggested by the narrow walls), lighting (candles) and colours (the red of the wax and the yellow of the flames).

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[655] Cf. Remi Lacoste (Lead Camera Designer at Crystal Dynamics), 'Creating an Emotionally Engaging Camera in Tomb Raider', talk given at the GDC (Game Developers Conference), San Francisco, CA, (25–29/05/2013). Retrieved from http://www.gdcvault.com/play/1018141/Creating-an-Emotionally-Engaging-Camera (accessed on 25/02/2015).

[redacted]

Figure 20 - *Tomb Raider*

[redacted]ose distance (Figure 20), framing her in medium shot and allowing the spectator to notice the decorations made of human bones and the graffito on the wall.[656] The camera shifts to a medium close-up when Lara traverses a narrow passage between two rocks, getting so close to the character as to obscure the view with her body. Lacoste highlights the ability of the camera to highlight ‘points of interest’ but also the ‘occlusion’ created by means of objects in the environment that come between it and the player-character.[657] Water slides on the camera lens as she passes under a small waterfall and more reflections are displayed when she jumps in the ponds on the ground, simulating the minerals in the water as

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[656] In *Tomb Rider* the camera distance changes according to the dimensions of the environment, becoming more distant outdoors and closer to the character indoors. This strategy is functional both narratively –as it coveys danger at every corner inside the buildings limiting the visibility of the player and freedom of exploration outside showing the environments as a whole– and in term of gameplay –as it allows different actions, focusing on close interaction with the environment to collect clues and solve puzzles inside, while providing the player with the necessary visual cues for exploration outside. In fact, according to Lacoste ‘A closer camera allows to feel more empathy and facilitates the identification with the protagonist.’.

[657] Cf. Remi Lacoste (Lead Camera Designer at Crystal Dynamics), ‘Creating an Emotionally Engaging Camera in Tomb Raider’, talk given at the GDC (Game Developers Conference), San Francisco, CA, (25–29/05/2013). Retrieved from http://www.gdcvault.com/play/1018141/Creating-an-Emotionally-Engaging-Camera (accessed on 25/02/2015).

they stick on the lenses creating refractions when exposed to direct lighting: ‘[the camera] simulates our reality: rain drops, blood, lens flare’.[658] Moreover when Lara causes an explosion to pass through a pile of rubble, the camera shakes and remains unstable as the caves tremble.

[redacted]

Figure 21 - *Tomb Raider*

When Lara crouches to slide through a narrow passage a stranger appears behind her and grabs her by the foot (Figure 21). The event activates a QTE during which Lara is unable to move, held by her aggressor obstructing the view and causing the camera to cut to a reverse shot while the player has to toggle the analog stick to free her. Lara eventually manages to escape and progresses through the rocky corridor falling in the water and swimming across a stream barely keeping her head out of the water for the lack of space above. In this sequence, the camera hovers waveringly, simulating the movement of Lara floating in the water, and framing the player-character in close-up, conveying her claustrophobia via composition, visually suffocating her image within the frame. Lacoste describes the ‘documentary-style’ camerawork in *Tomb Raider* as: organic (hand-held and constantly moving); personal (showing things from Lara’s POV); physical (occupies space, has a weight and physically reacts to events within the environment). These qualities provide an ‘engaging and involved’ camera to mediate for the player, controlling a character

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[658] Ibidem.

whose experience (physical and psychological) is mediated by the camera.[659]

> The development of audiovisual technologies has been driven not so much by a realist project as by an *illusionary* one. That is to say, the illusion of the real has had to be made more convincing and the spectacular has had to be made more 'realistic', The second-hand has had to become first-hand, the vicarious has had to be made vivid. Audiovisual technologies have had to make illusions realities. […] Now, audiovisual technologies have apparently removed barriers between the real and the represented by their production of the hyper-real (the 'more perfect copy of the real'), and have ironically rendered problematic indexical relationships each time they have exceeded the latest *ne plus ultra* in their illusionary project.[660]

In this sense, the virtual camera is a device that allows the player to accept the existence of a virtual world, to understand his/her presence in it and to make sense of why images are displayed on the screen. It stipulates an implicit contract between the game and the player, for which the presence of the camera facilitates the possibility of seeing the dimension on the other side of the screen, to accept it as a reality. Overall, the disjunction between the film-camera materiality against the virtual-camera immateriality is solved through a simulation of (some) limitations of the camera. At the same time, the possibly infinite number of viewpoints generated by the virtual camera allows for a high level of experimentation. Video game cameras seamlessly revolve around avatars (under players's control), execute spectacular *fly-throughs*[661] (*travellings* across the virtual environments), traversing objects and

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[659] Ibidem.

[660] Philip Hayward and Tana Wollen, op. cit., 1993, p. 2.

[661] Michael Nitsche, op. cit., 2008, p. 95.

walls, visualising characters in extreme *slow-motion* in innovative and unexpected ways. At the same time, the virtual (limitless) camera is now imitated by cinema, which innovates its tools of expression under the pressure of this new system of visual aesthetics.

The imitation of cinema's materiality goes beyond the camera and embraces the film medium itself. The remediation of cinematic viewing contexts is a prominent aspect of video game cinematic remediation. Since their first emergence, cinematic games such as *Tomb Raider* and *Resident Evil* often displayed two black bands at the top and at the bottom of the screen to signal the cinematic nature of the events displayed. Cut scenes were often signalled and introduced by this feature that further highlighted the differences and discontinuity between them and gameplay sessions, particularly reinforced by graphic disparities and the use of pre-rendered sequences for the former. Some games have a cinematic ratio also during the gameplay elements. *Resident Evil 4* is a famous example, which used the 16:9 ratio not only to give a more cinematic appeal to the game, but mostly to enhance the graphical quality of the game by reducing the visualised area of the screen and, as a consequence, decreasing the amount of real time graphical calculus required from the machine. As previously seen, it is often the case that aesthetic elements are used to make up or to work around technical limitations. Nevertheless, their implementation also has an effect on the development of trends in audiovisual aesthetics. Another example concerning the physical properties of film projection is the implementation of film grain to reinforce the cinematic character of some titles. Stephen Prince describes the importance of film grain in making the audiovisual artefact look "alive", a quality clearly associated with the medium and transferred through its materiality to digital media:

> The extreme clarity of digital video is a function of its lack of grain. Grain—bits of silver halide suspended in the emulsion of a film stock—gives the celluloid image its special luminosity and vividness. The grain pattern is never the same from frame to frame, making each frame a unique visual experience even if its content—a shot of a table lamp, for example—is static. It is the constantly changing grain pattern that helps make the film image look so alive, and which also diminishes its degree of sharpness relative to DV. This is an interesting paradox. Film looks more alive than digital video, yet it doesn't have the latter's clarity. As film stocks have changed over the years, so has their grain structure, with the general movement being toward more finely grained stocks. In a perverse way, perhaps the grainlessness of digital video represents the ideal and ultimate goal of this evolution. In actuality, though, scrubbed of grain, the digital image looks unnaturally clean and shiny.[662]

The original *Silent Hill* featured visual noise that simulated film grain. On the one hand, this effect allowed the developers to mask some of the imprecisions and lack of graphical detail of the title. On the other hand, it worked in favour of its cinematic appeal, not only to reference the filmic medium, but also to evoke a set of aesthetic qualities attached to it. The presence of film grain, in fact, evokes a sense of nostalgia generated by the contrast between the digital image and the analogic medium evoked in it.

In the medium of film, grain, hiss, and flicker are nondiegetic indicators of

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[662] Stephen Prince, 'The Emergence of Filmic Artifacts: Cinema and Cinematography in the Digital Era', in *Film Quarterly* v.57 (3), 2004, [pp. 22–33] p. 31.

> time passing. […] Since video games usually do not have the same nondiegetic indicators of passing time mentioned above (moving grain, flicker, hiss, and so forth), other forms of ambience are sometimes added to scenes to emphasize the potential for movement and keep the image feeling “live”.[663]

Moreover, the nostalgia effect enhances certain temporal qualities of this particular game, reinforcing the sense of suspension inscribed in the timeless dimension in which the town of Silent Hill is trapped and that is the signature of the franchise. In this sense, the extradiegetic qualities of the film merge with the diegetic character of the game setting, exemplifying the synergy between the ontological and phenomenological character of the cinematic video game image. Time is a key dimension of this process and its aesthetic perception results from the negotiation between the expectations with which the medium is charged and the player’s experience.

> Cinematic movement is a fundamental challenge to the concept of wholeness and integrity, it’s becoming a test of the primacy of existence. In particular, it raises the question of temporality: when is the object of cinema? When, indeed, is the moving image?[664]

Time is the subject of the next chapter. It is a fundamental element in the comparative debates concerning cinema and video games. It is often summoned to exemplify the completely different nature of the two media, supposedly due to the impossibility of representing any other temporality but that of the present in video games.

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[663] Mark J. P. Wolf, op. cit. 2007, p. 79–80.
[664] Sean Cubitt, op. cit., 2004, p. 5.

Chapter 6 – The illusion of temporality

Space is clearly a fundamental aspect of video game design and production, capable of profoundly shaping the gameplay experience, as well as determining the genre of a game and its characteristics. The prominence of this aspect is reflected by the amount of literature produced on it, much of this nominating space as the core dimension in video games. Nevertheless, the ritualistic definition of video games provided by Huizinga, situates them not only in a defined space but also in a finite time. The dimensions of space and time are deeply interconnected, leading authors such as Michael Nitsche to argue that 'We understand complicated temporal constructions in video games because we understand their spatial relationship'[665]. This is in stark contrast to our understanding of cinema as a profoundly temporal medium as a consequence of its ontological and phenomenological nature. On the one hand, the indexical quality of the cinematic image, according to Bazinian conceptions, binds it to a representation of the present, the instant that unfolds before the camera. Once again, it is useful to develop a comparison across media. The cinematic tense seems to be bound between the present and "indefiniteness" due to the role played by time as a bridge between the film and the devices of projection. Sarah Cardwell[666] comments on George Bluestone's theory of the "presentness" of the cinematic image by arguing for its "tenseless" character determined by the ambiguous temporality of the decontextualized cinematic fruition.[667] On the other

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[665] Michael Nitsche, 'Mapping Time in Video Games', in *Situated Play*, Proceeding of DiGRA 2007 Conference, 2007, p. 14

[666] Cf. Sarah Cardwell, 'About Time: Theorizing Adaptation, Temporality, and Tense', in *Literature/ Film Quarterly*, v. 31 (2), 2003, [pp. 82–92].

[667] These arguments have been criticised in relation to theories of adaptation by authors such as Robert Stam. Nevertheless, these works seem only tangential to the topic of this thesis, as they focus on the possibility of a stylistic translation of time rather than on the phenomenological quality of the medium and its intermedial relationships. In other words, he proceeds on the premise of possible similarities rather than specificities between different expressive forms. According to

hand, the technical nature of the medium prescribes a specific time –the duration of the film– for its fruition that is affected by the emergence of digital technology. Laura Mulvey illustrates this process by conceptualising the cinematic perception of time in a 'triptych' relation between photography, cinema and digital media.[668] In fact, discourses on the presentness of the cinematic image have been further problematised by the emergence of digital technologies. Here the paradigmatic case of "liveness" is again pertinent and central. In Mulvey's analysis, the barrier between the indexical "presentness" of the moving image against the historicised character of the still picture collapses under the pressure of digital technologies that push it backward in time. Certain qualities of the digital contaminate the cinematic image and its practices reframing filmic temporality in the past.

> Now, cinema's stillness, a projected film's best-kept secret, can be easily revealed at the simple touch of a button, carrying with it not only the suggestion of the still frame, but also of the stillness of photography. On one side, that of pre-cinema, stands the photograph. The image is still, but, like film, it is indexical. On the other side, that of post-cinema, stands the digital, unlike the cinema in its material composition but able to carry the mechanical, celluloid-based moving image into a multi-media future. But

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Stam 'cinema has tense even in the most literal sense, since its "languaged" tracks grant it all the moods and voices and tenses of verbal or written language', and he continues 'film offers myriad of other ways of marking past time, or the passage of time, in non-verbal ways'. He provides examples of the visual "markers" that can be used in films in order to convey temporal shifts, such as 'a title, a lap dissolve, or flashbacks – whether cued by a wavering image […] or by a change of lighting or color'. The author points at the "possibility", other than the textual one, to convey multiple and layered temporalities by the cinematic medium through stylistic markers. Nevertheless, the argument made here addresses the temporal quality of the medium, its relation with spectator perception and its phenomenology. Here Stam compares the declination of time through grammar to the stylistic, hence optional, visual choices available in cinema. Here the key issue seems to be]the comparison between natural languages and codes. Cf. Robert Stam, 'Introduction: The Theory and Practice of Adaptation', in Robert Stam and Alessandra Raengo, *Literature and Film: A Guide to the Theory and Practice of Film Adaptation* (2nd ed.), Oxford: Blackwell, 2007 [2005], p. 20, 21.

[668] Laura Mulvey, *Death 24x a second, Stillness and the moving image*, London: Reaktion books, 2006, p. 22.

> the post-cinematic medium has conjured up the pre-cinematic. Like the central panel of a triptych that has blurred at the edges, the cinema reaches both forwards and backwards. But at point of convergence between the old and the new, the easily accessible freeze frame brings the presence of death back to the ageing cinema. The still, inanimate, image is drained of movement, the commonly accepted sign of life.[669]

The intrinsic dynamicity and layered nature of video game time makes it difficult to analyse and define the temporality of its practice and aesthetics. Yet this difficulty is the symptom of an emergent time different from those offered in non-digital media. Nevertheless, the discourses around video game temporality continue on the trajectory provided by Mulvey according to which 'A dialectical relationship between the old and new media can be summoned into existence, creating an aesthetic of delay'.[670] Video games incarnate the rhetoric of the "hyper-present", a temporality of the *hic et nunc* intrinsic to the videoludic medium. The complexity of time and temporality in video games has been highlighted especially in attempts to provide a structuralist definition of its properties and characteristics. Jesper Juul frames the experience of time in the gaming activity as resulting from the juxtaposition between 'playing time' and 'event time'[671] (later redefined as 'fictional time'[672]). The first defines 'the time the player takes to play' while the second refers to 'the time taken in the game world'.[673] The relation between these two factors is

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[669] Ibidem, p. 22.

[670] Ibidem, p. 22.

[671] Jesper Juul, 'Introduction to Game Time', in Noah Wardrip-Fruin and Pat Harrigan (eds.), *First Person - New Media as Story Performance and Game*, Cambridge, Massachusetts: MIT Press, 2004, [pp. 131–142] p. 131.

[672] Cf. Jesper Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds*, Massachusetts: MIT Press, 2005.

[673] Jesper Juul, op. cit., 2004, p. 131.

defined as ‘mapping’, which describes the level of correspondence between the time invested by the player in playing and the time which passes inside the game’s diegetic world. This relation develops an approach parallel to the one based on fabula and syuzhet (story and discourse) in narrative media. Video games’ specificity lies in the peculiar proportion between these two dimensions that, unlike in other media such as cinema and literature, is often regarded as constituting “real time”. According to this perspective, due to the simulative nature of the medium time is driven by rules and the logic of ‘automation’.[674] According to Juul:

> […] regardless of inspirations from cinema, time in games is almost always chronological, and there are several reasons for this. Flash-forwards are highly problematic, since describing events to come means that the player actions don’t really matter.[675]

This interpretation can be related to a conception of cinematic time tied to the idea of narrative causality, according to which ‘Causes and their effects are basic to narrative, but they take place in time. Here again our story-plot distinction helps clarify how time shapes our understanding of narrative action. As we watch a film, we construct story time on the basis of what the plot presents’.[676] In Juul’s argumentation, the cinematic character of time in video games is to be found exclusively in cut-scenes, in which the 1:1 relation between playing time and event time is disrupted by narrative summaries.

The idea of a dualistic conception of time in video games –one belonging to the

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[674] Cf. Lev Manovich, op. cit., 2001.

[675] Jesper Juul, op. cit., 2004, p. 136.

[676] David Bordwell and Kirsten Thompson, op. cit., 2004, p. 80.

game's logics and the other related to the player's dimension– is detectable also in the analysis provided by authors such as Espen Aarseth, who develops a binary model defined through categories such as: the 'pace' between 'real time' and 'turn based';[677] the 'representation' that can be 'mimetic' or 'arbitrary';[678] and the 'teleology' level, defined as either 'finite' or 'infinite'.[679] This model describes time in video games based on its functions and does not account for the ways in which the perception of time is expressed in this medium and inscribed in its aesthetics. Michael Nitsche criticizes Juul's model for the lack of understanding of the relationship between playing and fictional time, leading him to theorise a third layer:

> The model […] provides little reference to time as it is experienced. […] Apart for a pointer to the concept of "flow" it does not address how a player may understand time shifts in games nor does it discuss a player changing in attitude towards certain game state.[680]

Juul's analysis seems not to separate gaming time from the dimension that the author defines as 'subjective time',[681] which is once again resulting from the interplay between playing time and event time. Also in this model, the influence of cinematic time is to be found only in the cut-scenes, due to the use of editing and transitions that convey ellipses and time shifts. The 'chronological' character of video game time defined by Juul is a fictional construct, resulting from the cognitive 'flow',[682]

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[677] Espen Aarseth, Solveig Marie Smedstad and Lise Sunnanå, 'A Multi-Dimensional Typology of Games. In: Proceedings', in Copier M. and Raessens J. (Eds), *Level Up Digital Games Research Conference*, Utrecht: Utrecht University Press, 2003 [pp. 48 – 53], p. 50.

[678] Ibidem, p. 51.

[679] Espen Aarseth, Solveig Marie Smedstad and Lise Sunnanå, op. cit., 3003, p. 51.

[680] Michael Nitsche, 'Mapping Time in Video Games', in *Situated Play*, Proceeding of DiGRA 2007 Conference, 2007, p. 146.

[681] Jesper Juul, op. cit., 2004, p. 138.

[682] Juuls adopts Mihaly Csikszentmihalyi's concept of flow to explain the origins of 'subjective time'. Cf. Jesper Juul, op. cit., 2004p. 139.

thus the 'subjective time' perceived by the player. The relationship between 'subjective time' and 'game/fictional time' is at the centre of this investigation, leading to the development of a specific aesthetics of temporality. In Zagal and Mateas's words, this third layer in the stratification of time needs to be understood through a 'relationist' approach:

> This allows us to tie temporal properties to player-perceived state changes (events), as well as define multiple temporal frames in terms of different domains of state changes. Every game has multiple temporal frames such as, but not limited to, those established by: hardware level state changes, state changes within the gameworld, and state changes in the real-world context in which the game is being played. The relationist approach to time allows us to both isolate these frames and analyze the relationships between them.[683]

The aesthetics of video game time seems, in fact, to result from the structural constraints imposed by the game through its temporal frames (levels, sub-levels, cut-scenes), shaping the way the player experiences it. In this perspective, the experience of time is often staged rather than simulated, suggested through scenography and audiovisual cues that mediate between the gameplay flow and the diegetic narrative frame. Diegetic time results from the negotiation between the medium's formal aspects and the player's performance. Which are, then, the characteristics of diegetic time in cinematic video games? How is the temporal experience conveyed and what kind of relationship does it establish with the medium? Once again, these questions

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[683] Jose P. Zagal and Michael Mateas, 'Temporal Frames: A Unifying Framework for the Analysis of Game Temporality', in *Situated Play*, Proceedings of DiGRA 2007 Conference, [pp. 516–523] p. 516.

intersect with cinematic paradigms, as diegetic time is often suggested to the player via cinematic conventions. The linear construction of time is, in fact, created by the mise-en-scene and the filmic instance through audiovisual cues that disguise a non-parallel relation between playing and fictional time. Other authors have developed a discourse/performance paradigm close to the theoretical framework of classical narratological theories, expanded with a semiotic approach in order to account for its stratification resulting from the interaction between the player and the machine and adding a second axis based on the simulative and the generative substrate of time.[684] This argument recalls a conception in which fictional time is articulated in sublayers, between story and discourse. According to Mateas and Zagal, video games' temporality is divided in multiple and overlapping 'frames'.[685]

The first level is that of 'real-world time',[686] that differs from Juul's 'playing time' as the former describes the ways in which the time of the physical world can affect the game and its development, making the relationship between playing-time and game-time 'pervasive'[687] and reaching beyond the proportional simulation. The pervasive character is one of the main traits of the 'casual revolution'[688] that started in the middle of the 2000s as part of a larger process of 'gamification',[689] for which everyday life is contaminated by ludic activities. In one of the earliest systematic

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[684] Graig A. Lindley, 'The Semiotics of Time Structure in Ludic Space As a Foundation for Analysis and Design', in *Game Studies* v. 5 (1), (October) 2005.

[685] Jose P. Zagal and Michael Mateas, op. cit., 2007 p. 517, 518.

[686] Ibidem, p. 518.

[687] Cf. Seabstian Deterding, Dan Dixon, Rilla Khaled, Lennart Nacke, 'From game design elements to gamefulness: defining "gamification"', in *MindTrek '11* Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, (New York: ACM, 2011), [pp. 9–15]. Retrieve from: http://dl.acm.org/citation.cfm?id=2181040 (last accessed 28/10/2013).

[688] Cf. Markus Montola, Jaakko Stenros and Annika Waern, *Pervasive Games: Theory and Design*, Burlington, MA: Elsevier, 2009.

[689] Ivan Mosca, '+10! Gamification and deGamification', in *GAME Games as Art, Media and Entertainment*, v. 1 (1), 2012. Retrieved from: http://www.gamejournal.it/plus10_gamification-and-degamification/#.UoJkvCgXXws

attempts at defining pervasive games, according to Montola: ‘These games do not have a single common denominator making them pervasive, though each of them has salient design features systematically working the way out of the magic circle of play’.[690] The ability of permeating time outside the borders of the “magic circle” is a characteristic of contemporary videoludic products. Nowadays, big budget titles such as *Grand Theft Auto V* are incorporating pervasive strategies in order to expand the impact of the product, filling the user’s time with a more articulated network of interconnected artefacts. Rockstar released a mobile application named *iFruit*[691] fictionally developed by a one of the companies that populate the world of *GTA V*. The app (to be use on the player’s mobile) contains a number of sub-programs that affect and interact with the world of *GTA V*, with features that allow players to change the settings and look of the cars (*Los Santos Custom*), as well as to train Franklin’s dog (*Chop the Dog*), which can learn new tricks and moves by achieving a certain score in mini-games available on the same app. In particularly *Chop the Dog* imitates the game mechanics of a *Tamagotchi*[692] and connects it to a AAA[693] titles product such as *GTA V* in order to amplify its impact within the users’ daily life. Such games seem to intersect the trajectories of gamification by imbuing AAA productions with more pervasive strategies. *Chop the Dog*, for example, breaks the conventional game temporality expanding it beyond the direct control of the player. It does not need the player to turn on the console and “start” the game, but it literally “pushes”[694] its

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[690] Markus Montola, ‘Exploring the Edge of the Magic Circle. Defining Pervasive Games’, Paper presented at the DAC 2005 Conference, (Copenhagen) 2005, p. 1. Retrieved from http://remotedevice.net/main/cmap/exploringtheedge.pdf. See also Markus Montola, Jaakko Stenros and Annika Waern, op. cit., 2009.

[691] *iFruit*, Rockstar Games, 2013, USA.

[692] *Tamagotchi*, Bandai, 1996, Japan.

[693] The term AAA is used by the industry and by the press to classify games developed with high budget. This qualifier was in initially used in the 1990s by developers in the context of game conventions. It was later adopted by the press and by users that nowadays use it to identify games of (supposedly) higher quality.

[694] “Push” is the word used to identify the notifications used by contemporary mobile software in

contents to emerge in the player's life.

On the contrary, 'gameworld time'[695] is dependent on its internal dynamics for the the triggering of events within it. Gameworld time is characterised by liveliness whenever 'events continue to occur even when the player is not actively participating to the world'.[696] Here there seem to be a paradigmatic friction between the scripted action and the automatized procedural event mirrored in the tension between the staged nature of the designed experience against the simulated character of the virtual environment.

While the definition of 'coordination time'[697] further explains a possible functional distinction within gameworld time, the description of 'fictive time'[698] is of even more interest, as it is 'established through the application of socio-cultural labels to a subset of events […] which changes a player's expectations of the granularity of action that can be accomplished in a round'.[699] Crucial to this argument is the acknowledgment of the player's expectations to "play" a fundamental role in shaping the experience of time.[700] The aesthetics of time rises from the negotiation between the expectations of the player and the temporality of the task he/she has been given. In games such as *Uncharted, Resident Evil* and *Tomb Raider* diegetic time is often

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order to remind the user of activities, events and elements of the software that need attention, even when the application is not open. These systems run in the background, keeping track of events and activities that are eventually notified to the user enforcing the role of the software in daily life.

[695] Jose P. Zagal and Michael Mateas, op. cit., 2007, p. 518.

[696] Ibidem, p. 518.

[697] Jose P. Zagal and Michael Mateas, op. cit., 2007 p. 519.

[698] Ibidem, p. 519.

[699] Ibidem, p. 519.

[700] The most important aspect of this theoretical framework is the stratification of time according to which multiple temporal frames can coexist encapsulated and layered. The ludic nature of the video game experience is partially shaped by the interaction of the player with the system of rules. This experience can be consequently altered by the interplay between the game rules and the time frame. Cf. Jose P. Zagal and Michael Mateas, 2007, op. cit., p. 520.

perceived as chronological and consistent with the gaming time. Nevertheless, regardless of the amount of time invested by the player in order to complete a stage or the entire game, its time framework never changes and diegetic time is mostly fixed. Diegetic time is, in fact, predetermined and embedded in the mise-en-scene and in the filmic instance; it is a constructed concept, suggested via scenography and narrative key points, that structure the experience of time in videogames even more than in cinema. The episode 'Chapter 13: Locomotion' to 'Chapter 14: Tunnel Vision' in *Uncharted 2: Among Thieves* exemplifies the layered character of time in the cinematic video game. Here Drake has to traverse a running train in order to reach and confront his nemesis. The passage of diegetic time is suggested through the train's movement across the scenographic space around it. The background is generated in a loop that portrays always the same portion of environment until a new threshold within the train is reached by the player-character. Thus, the passage of time is tied to the spatial position of Drake and not to the time spent by the player within the environment. In fact, when Drake is finally able to take down the helicopter that is chasing him, a brief cut-scene shows the train entering a tunnel giving the setting for the following level 'Tunnel Vision'. Only when Drake reaches a specific coach of the train does the background finally change, once again, through a cutscene that shows a squad of soldiers looking for him as the train exits from the gallery. The passage of time is clearly scripted, dependent on the spatial progression of the player-character, staged in order to deliver always the highest level of dramatic impact. Zagal and Mateas highlight the connection between the perception of temporality and the spatial dimension of games: 'Most of our understanding of time is a metaphorical version of our understanding of motion in space'.[701] Spatial

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[701] Jose P. Zagal and Michael Mateas, op. cit., 2007, p. 517.

movement activates narrative sequences and elements that, as a consequence, make the passage of time manifest.

Here a cinematic character re-emerges through the continuity model in which the relation between causality and spatial consistency works as a narrative engine, shaping the time flow within the diegetic world. According to Bordwell and Thompson:

> Causes and their effects are basic to narrative, but they take place in time. Here again our story-plot distinction helps clarify how time shapes our understanding of narrative action. As we watch a film, we construct story time on the basis of what the plot presents.[702]

In *Uncharted 2*, regardless of the amount of hours spent by the player within the train, when Drake crosses a certain threshold the train exits one particular location, and the bright sun and lush vegetation of the previous level make room for a cold mountainous scenery covered in snow. The change in the background together with the alteration of the lighting conveys the sensation of passing time. *Uncharted 2: Among Thieves* offers one of the most notable examples of the complex temporal articulation conveyed by video games in this generation. The game begins in *medias res*, when Drake wakes up on a wrecked train.[703] The player is unaware of what happened to the player-character until Drakes finally escapes the train and falls unconscious. This classic narrative strategy motivates a flashback that takes the player to the beginning of the events leading to the train crash. From the second to

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[702] David Bordwell and Kirsten Thompson, op. cit., 2004, p. 80.

[703] Cf. *Uncharted 3: Drake's Deception*, Naughty Dog, 2009, USA, 'Chapter 1: A Rock and a Hard Place

the fourteenth chapter, the game unfolds the events that led to the crash shown at the beginning; the narrative instance slowly connects the dots of the intricate plotline building a paradoxical expectation and tension for what is to come after the beginning. Similar strategies have been used in *Max Payne 3.*[704] *Tom Clancy's Splinter Cell: Conviction*[705] and, even before, in *Metal Gear Solid 4: Guns of the Patriots.*[706] *MGS4* represents an even more interesting case as it visually highlights the time shift through a different graphical register that is informed with filmic strategies similar to those recalled by Richard Misek in relation to cinema: 'the transformation of black-and-white into a mode of representation associated with the past provided a new means of coding the past'[707]. It is often the case that films use stylistic registers connected to different technologies in order to signal the passage to altered temporalities and dimensions. For example, from the *Wizard of Oz* up to the more contemporary *The Artist*,[708] cinema makes use of colour appealing to the medium's technological progression in order to convey a shift in time. Video games, as an audiovisual medium whose evolution is even more tied to technologies, similarly acknowledge this relation via style, deploying temporal registers connected to the technological limitations of older hardware. On his way to the military complex of Shadow Moses, Solid Snake dreams of his previous visit to the base and these events are known to the player from the first chapter of the series *Metal Gear Solid*. The memory of the protagonist is conveyed using the same graphics and the same gameplay from the original 1998 title, overlapping the present and the past through an audiovisual inconsistency that is diegetically motivated. The section is

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[704] Cf. *Max Payne 3*, Rockstar Vancouve, 2012, Canada, 'Chapter 8: Ain't No Reprievement Gonna Be Found'.

[705] In 'Scene 4: Diwaniya, Iraq', the protagonist, Sam Fisher, take the player through a flashback in which Sam, prisoner of the enemy soldiers, has to be rescued by another character that for this portion of the game becomes the player's avatar. Cf. *Tom Clancy's Splinter Cell: Conviction*.

[706] Cf. *Metal Gear Solid 4: Guns of the Patriots*, Kojima Production, 2008, Japan, 'Act 4: Twin Suns'.

[707] Richard Misek, op. cit., 2010), p. 87.

[708] *The Artist*, Michel Hazanavicius, 2011, France, Belgium, USA.

immediately framed in the past by the low level of detail of the characters and of the textures, alerting the player to the exceptional nature of this section. This strategy enforces the temporal detachment from the diegetic present by associating it with the ontological past of the game's graphics and, at the same time, it charges the original game with renovated value, justifying its technical faults by reframing its narration in the past, generating a virtuous circle of intertextuality. In other games such as *Silent Hill: Homecoming*,[709], the sense of temporal progression is impeded by the mise-en-scene. Here the colours, the lights and the stillness of the environment wrap the player in a suspended time consistent with the oneiric experience evoked in its narration.

Other titles such as *Sid Meier's Civilization V*[710] and *The Sims*[711] stress a dimension of time simulating a proportional relation between the in-game time and the number of hours invested by the player. In these titles, time is rewarding for it is this dimension – rather than space – that allows progression through the game. To traverse the game in *The Sims* means, first of all, to traverse its temporal dimension, to facilitate the personal and relational development of the characters, giving them time to pursue their careers and engage with their own activities. In these games, time is a key feature that reflects the importance of the process over the goal.

Even more so, in *Alone in the Dark* and *Tomb Raider* time is a fictional construct, close to cinematic conceptions due to its episodic structure. For example, in *Alone in the Dark* the narrative dimension of time is almost forced on the player by the deployment of short cutscenes activated at the beginning of each gaming section. These cutscenes, which summarise the events unveiled by the player up to that point,

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[709] *Silent Hill: Homecoming*, Double Helix, 2008, USA.
[710] *Sid Meier's Civilizaiton V*, Firaxis Games, 2010, USA.
[711] *The Sims*, Maxis, 2000, USA.

are informed by the “previously on” convention familiar from serialised television. Here the concept of time-frame is useful in order to understand the temporal stratification that shapes the perception of the player. Time is explicitly used in order to convey a televisual character. The short recaps at the beginning of each game session guarantee a sense of narrative continuity which simultaneously reminds the player of the discontinuous nature of the playing (and viewing) practice.

If, as suggested by Mulvey, cinema’s temporality collapses under the fragmentation of digital technologies, video games thrive on fragmentation. In video games the persistent present coexists with alternative futures. And the ontological fragmentation of the video game image seems to be reflected in the phenomenological perception of time. Video games, in fact, put the player in charge of taking decisions not only regarding the space, within which takes place the kinaesthetic interaction of the player, but also in relation to time. This aspect is reflected on an ontological level by their ‘modularity’ and ‘automation’,[712] which allows the virtually infinite ability to “re-produce” small portions of text for the player to repeat or to avoid each sequence.[713] Once again, in *Alone in the Dark* and in *L.A. Noire*, the player is given

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[712] Cf. Lev Manovich, op. cit., 2001.

[713] In an interview with Victoria Moran, a script-writer for for Bioware, the author describes the importance of a feature that allow the payer to “skip” combat sequences in video games in the same manner already possible for cut-scenes and dialogue sequences. She underlines the importance of this feature also in order to expand the audience of the titles to those people who may have no interest in these sections. ‘A fast-forward button. Games almost always include a way to “button through” dialogue without paying attention, because they understand that some players don't enjoy listening to dialogue and they don't want to stop their fun. Yet they persist in practically coming into your living room and forcing you to play through the combats even if you're a player who only enjoys the dialogue. In a game with sufficient story to be interesting without the fighting, there is no reason on earth that you can't have a little button at the corner of the screen that you can click to skip to the end of the fighting. […] The biggest objection is usually that skipping the fight scenes would make the game so much shorter, but to me, that's the biggest perk. If you're a woman, especially a mother, with dinner to prepare, kids' homework to help with, and a lot of other demands on your time, you don't need a game to be 100 hours long to hold your interest –especially if those 100 hours are primarily doing things you don't enjoy. A fast forward button would give all players –not just women– the same options that we have with books or DVDs –to skim past the parts we don't like and savor the ones we do. Over and over, women

the capacity to skip specific sequences and bits of the game. On the one hand, such systems are introduced in order to prevent player frustration caused by endlessly repeating difficult portions of the game. On the other hand, from a user perspective, these systems allow the player to build a personal version of the text, matching individual expectations and likes. The possibility to actively skip parts of the game or specific activities significantly predates the current console generation and has been developed in relation to different elements. Among the first active choices given to the player in this sense, allowing him/her not only to perform the text but also to manipulate the modality of this performance, was the option to skip cut-scenes and cinematic sequences. These chunks of text offer rewards for the player's commitment and establish the pace of the game by calibrating the balance between action and narration.[714] The non-interactive nature of such sequences, combined with the trial-and-error structure and the consequent reiterative character of video games, causes the cut-scenes to become divested of purpose after their first fruition, given that their function is to illustrate the events which have occurred in between gameplay sections. This option became a necessity with the development of lengthy dialogue sequences in genres such as the adventure and the RPG. Here the extended articulation of the dialogue interludes, compared to other contemporary genres, led the designers to implement a skip-dialogue feature. This option doesn't only allow the player to avoid repetition, but it also gives him/her control over the pace, leaving some space for interaction even in these purely narrative moments. The development of this feature reached its maximum value during the current generation. Games such

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complain that they don't like violence, or they don't enjoy difficult and vertigo-inducing gameplay, yet this simple feature hasn't been tried on any game I know of. Granted, many games would have very little left if you removed the combat, but for a game like *Deus Ex* or Bioware's RPGs, you could take out every shred of combat and still have an entertainment experience that rivals anything you'd see in the theater or on TV'. Anonymous, 'Killer Women: Victoria Moran', in *Killer Betties* February 20, 2009. retrieved from http://www.killerbetties.com/killer_women_victoria_moran/

[714] Cf. Rune Klevjer, op. cit., 2008.

as *Metal Gear Solid 4: Guns of the Patriots* would become extremely frustrating without an option to skip the reiteration of its 10 minute long cut-scenes.

One of the main characteristics of cinematic time, almost since its origins, is the ability to easily develop parallel time frames, in a way that is different and more highly codified compared to theatrical forms, due to the ontological differences between these media. Even if it is possible to easily shift the spatial dimension on a stage, changing the props and backgrounds, it is extremely difficult to convey to the audience a shift in time without using text or a voice over that provides meta-information that breaks the fourth wall disturbing the suspension of disbelief. The main obstacle to video games' ability to represent parallel timelines and narratives is the focus on a single protagonist that is the player-character.[715] Relatively few games have experimented with multi-character scenarios.[716] *Resident Evil* was one of the first titles to popularise this feature, giving the player the possibility to select one out of two characters. Already by the 1980s some classic titles such as *Double Dragon*[717] gave the possibility to choose among multiple characters, but the selection would be reflected merely by the aesthetic appearance of the player-character rather than in the gameplay or the narrative development.[718] On the other hand, once again, sport games and beat-em-ups, such as *Street Fighter*,[719] represent an exception, as the game mechanics are heavily based on performance depending on the individual

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[715] The nature of the player-character can be individual or collective. In strategy games such as *Age of Empires* (Ensemble Studios, 1997, USA) and RPGs such as *Baldur's Gate* (BioWare, 1998, Canada), the player is offered control over a number of characters at the same time. Nevertheless, in these titles the focus of the narration will be collective, addressing all the characters at the same time, without providing multiple focalisations (in narrative terms), but rather treating the "party" as a whole.

[716] Among others, *Maniac Mansion* (Lucasfilm Games, 1987, USA) is among the first titles to experiment with multiple playable characters that develop different scenarios.

[717] *Double Dragon*, Technos Japan Corporation, 1987, Japan.

[718] Althought there are many gaps in our existing histories of the video game, this is particularly evident in relation to the changing nature of the avatar over time.

[719] *Street Fighter*, Capcom, 1987, Japan.

characteristics of the avatars that allow competitive multiplayer gameplay mechanics. The match oriented structure and the multiplayer mechanic make necessary the design of different avatars each with its own distinctive ability to be confronted against others creating opportunities for the development of an *ad hoc* style from the player.

Outside the aforementioned genres, *Resident Evil* was one of the first titles to grant a similar feature, which also enhanced the narrative potential of the game. At the same time, the (apparent) freedom granted by this choice is not much different to that permitted by the beat-em-up genre. Although the selection of different avatars does not affect only their looks but also the narration and the temporal structure, the main narrative arc is developed for both characters mostly through the same key moments. A very similar model is followed by *Resident Evil 2*[720], which is nonetheless a significant step forward in terms of parallel narratives and temporalities. Compared to the previous chapter, the game made better use of character-related game mechanics (Leon Kennedy and Claire Redfiel, the two protagonists of the game, are assigned different abilities that affect the gameplay dynamics), at the same time their story lines and goals providing multiple perspectives on the events. This concept is further enhanced in *Grand Theft Auto V*, in which the player is allowed to switch between three primary protagonists almost at any time. Contrary to other titles that allow control over a group of avatars, either collectively or individually, in *Grand Theft Auto V* each of the characters can be found in a different part of the game's vast map. Here the perception of a parallel time is amplified by the deployment of specific cinematic aesthetic tools, which are associated with the intervention of a

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[720] Resident Evil 2, Capcom, 1998, Japan.

narrator function over the disposition of the events. For this reason, whenever the player selects one of the characters, the camera zooms out from the avatar, ascending to the clouds and progressively revealing a bigger portion of the city until it stops to pan in the direction of the selected character, before zooming in onto the new avatar. The switching from one avatar to the other is aesthetically conveyed through the camera work, which suggests the intervention of a narrator figure capable of intruding in the characters' lives at any time. The sense of progression in the lives of the characters is provided once again by the scripted staging, for which the characters are caught in a variety of activities each connected to the personal storyline and character of the selected avatar. Nevertheless, none of these events are directly connected or affect the main narrative arc, functioning only as background context to the activities pursued by the player. Trevor –a murderous psychopath with a taste for monologues– is often found drunk in the middle of the desert, at the side of the road or on a beach surrounded by the corpses of his victims. Little to no relevance is given to the events that led to the episode of rage, which is instead used to show the consistent passage of time in the characters' lives, flashing out their personal narratives and enhancing the immersion of the player within the game world. Although the game features a system of dynamic day/night cycles, the narrative progression is not effectively connected to it, but to the tasks accomplished by the player. The alternation of night/day cycles is merely a staging device, used in order to make the virtual stage in which the player acts more believable and 'life-like'. Even the shops are open 24 hours reducing time-specific activities available to the player. The perception of time is then primarily a product of the organisation of the mise-en-scene, the lighting, the actions assigned to the characters and so on, rather than being a proper simulation of it. What is simulated is the illusion of time, the scenic effect of it. Each main mission will in fact begin at a specific time of the day, staged to the point that the game will provide the player with an establishing shot that shows the shift from night to day or vice versa in accordance with narrative necessity.

Alexander Galloway develops an analytical game model articulated in quadrants that interlaces four different dimensions of gaming which are distributed on two axes: the machine/human-operator axis and the diegetic/non-diegetic axis. The author uses this model in order to identify different typologies of actors and actions at "play" during the gaming session. This model is useful in relation to space/time articulation and for the identification of medium specific characteristics. By using the concept of 'action' in order to explain the dynamic and layered character of the medium the author argues for the complex and stratified nature of time in video games:

> Games have the luxury of being able to exist outside real, optical time. Games pause, speed up, slow down, and restart often. But more than that, they can also transpire in moments of suspended time, as in turn-based role-playing games (RPGs) where the player plays (sets up actions, inspects statistics, rearranges character formations) solely during the interstices between other actions. Film has never had this luxury.[721]

In particular, Galloway adopts the definition of 'ambience act',[722] as exemplified in *Shenmue*,[723] in order to describe the temporal quality of certain video games. These are moments of pause from the gaming activity, in which the player does not interact

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[721] Alexander R. Galloway, *Gaming*, op. cit., 2006, p. 66.
[722] Ibidem, p. 10.
[723] *Shenmue*, Sega-AM2, 1999, Japan.

with the game. The author uses the term 'tableau' in order to describe these elements. In fact, the ambience act is defined as 'a perceptual happening or a living tableau' during which 'the game is still present but the play is absent'.[724] Interestingly, here the term tableau is used with reference to theatre in order to indicate a static and yet living time. Here the static character of these scenes is recognised as exceptional, contrasting with the living flow of gameplay through the use of the term "tableau". Once again the definition of liveness is dependent on the context and, through the use of the word "tableau", the theatrical paradigm is used against the videoludic one in order to recognise a lack of action. For Galloway, during the ambience act the game is present while the player's activity is absent. It seems like time keeps running while the avatar stands still, as the virtual world keeps moving and living. Nevertheless, nothing of importance happens, waiting for the player to "act" again. As underlined by Galloway, the passage of time is superficial, with no consequences on the virtual world. This is the case in *Tomb Raider*, in which the mise-en-scene suggests the passage of time in a persistent present. The wind blows, the particles of dust float in the air, the leaves fall from the trees, but nothing happens in this world, and until the player traverses a threshold the time of the day remains the same. The concept of 'tableau' explicitly references the lexicon of theatrical mise-en-scene, in which it is defined as a 'term [that] signals a set of functions performed by the stage picture: to punctuate the action, to stress or prolong a dramatic situation, and to give a scene an abstract or a quasi-allegorical significance'.[725] Commenting on the adaptation of this function in cinema, the Brewster and Jacobs describe the tableau as a 'plastic pictorial effect' achieved through the freezing of the action.[726] Their description of the tableaux seems more relevant in relation to another common

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[724] Alexander R. Galloway, op. cit., 2006, p. 10.
[725] Ben Brewster and Lea Jacobs, op. cit., 1997, p. 35.
[726] Ibidem, p. 38.

aesthetic trope in cinematic video games: the use of bullet-time. Bullet-time is, now in fact, a common feature of video game productions. Originally associated with the series *Max Payne*, bullet-time was soon adopted across different genres and inflected through different functions. Nevertheless, bullet-time is primarily an aesthetic tool of representation that allows the video game to reconcile its oxymoronic temporality, its tension between stasis and dynamism. From *Tomb Raider* to *Red Dead Redemption*, and *F.E.A.R. – First Encounter Assault Recon*,[727] *Prince of Persia: The Sands of Time*,[728] *Fallout 3*,[729] *Dead or Alive 5*,[730] *The Witcher 2: Assassin of Kings*, *Grand Theft Auto V*, video games of different genres incorporate the aesthetic of suspended time, in which the world and events around the avatar slow down, almost freezing, allowing the player to think strategically, to take decisions and even to admire proficient performances, creating a plastic pictorial effect that punctuates the action in a fashion comparable to the cinematic tableau in which the 'freezing of the actors is usually narratively motivated'.[731]

Contemporary, video games such as *Red Dead Redemption* and *Grand Theft Auto V* even exceed Galloway's definition of ambience act. In fact, while the ambience act is described as a moment in which 'things continue to change […] but nothing changes that is of importance', arguing that 'no significant stimulus from the game environment will disturb the character',[732] games such as *Red Dead Redemption* deploy strategies that simulate the life-like quality of the world regardless of the player activity, thus relying solely on machine acts. These happenings are side

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[727] *F.E.A.R., - First Encounter Assault Recon*, Monolith Productions, 2005, USA.
[728] *Prince of Persia: The Sands of Time*, Ubisoft Montreal, 2003, Canada.
[729] *Fallout 3*, Bethesda Softworks, 2008, USA.
[730] *Dead or Alive 5*, Tecmo Koei / Team Ninja, 2012, Japan.
[731] Ben Brewster and Lea Jacobs, op. cit., 1997, p. 48.
[732] Alexander R. Galloway, *Gaming*, op. cit., 2006, p. 10.

events, as described by Galloway, but they are more sophisticated and articulated than the ones provided in his description. In fact, Rockstar's title implements a procedural narrative generator that allows for scripted events to randomly take place at any time.[733] Not only does the machine start ambience acts whenever the avatar is standing still, but also during the exploration of the environment random events can take place around the player. These micro-narratives are in between the embedded and the emergent model as they are partially scripted (in terms of actions and dialogues), but randomly take place in space and time. These are minor events, which are never essential or directly connected to the main story, but are used to provide a cumulative narrative effect that enhances the atmosphere and organic character of the diegetic world by giving depth and width to the progression of time, without affecting the time frame of the main narrative arc. These events are of different types and offer different micro-narratives that change according to the gameplay structures of the activity that they offer. Due to the wild-west setting in which the game takes place, the range of these missions goes from helping women in distress to retrieving stolen booty or providing safe escort through dangerous territory.

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[733] Here the double nature of video game mise-en-scene as embedded and emergent is even clearer, as the game is provided with a procedural system that randomly combines predetermined characters and activities within space and time, generating procedural contents that are nevertheless controlled by the author. This model, once again, recalls the parallel Jenkins draws with the Italian *commedia dell'arte*.

[redacted]

Figure 22 - ***Red Dead Redemption***

Not only do these missions provide depth to the game world but they also add variety to its gameplay. They generally take situations and mechanics previously deployed during the main missions, and offer them to the player in a simplified or slightly changed version that is used as a diversion from the roaming activity.[734] In other words, these events fill the game world with life. While John Marston rides his horse across clearings, deserts and mountains in *Red Dead Redemption* (Figure 22), he occasionally meets characters occupied with specific activities, such as organising and defending camps, chasing criminals, hunting. As described by Galloway, these events take place independently from the player's actions and their development is not tied to his/her intervention. Thus, the player is given the choice to witness the events without getting involved or to take action, being either successful or failing

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[734] These games are often referred to as free-roaming games. This definition, as it is often the case for video game genres, is not comprehensive and by no means it is definitively accurate. This label rather defines a typical activity characteristic of these games –that of roaming around the game world with few limitations compared with the typical linear progression of video game design– determined by the nature of the game world. In fact, generally in these games the world is designed as a single map that is made accessible to the player in its entirety (or almost) from the beginning of the game. This typology of design is generally connected to the freedom – assigned**?** to the player– of taking on different paths (spatially but also narratively) according to each section of the world.

without any consequence to the development of the main quest.

In Genettian terms, the passage between different time frames often transpires in the interplay between 'duration' and 'rhythm'. Unlike cinema, video games' overall duration is not easily established. In most cases, the player is given the possibility to spend an indefinite amount of time within the virtual world, due to the simulative character of the medium that allows the persistent interaction with the text and often requires the repetition of certain segments. While films can certainly be replayed, their outcome will never change and the replay is an "option" that exceeds the time frame of the original artefact. On the contrary, the simulative nature of video games encourages the replay in order to achieve a different outcome, not necessarily in narrative terms, but often in order to improve the "score" obtained by the player, or to discover new elements that have been ignored during the first run. In video games the word "replay" assumes many connotations. These include the reiterated simulation of rule-based systems but also, like in cinema, a temporality that exceeds the time frame of the text itself, and expands through different media. Replays also operate in video games through specific genres that emulate the homonymous televisual aesthetic. Sports games and racing games use replays to emphasize the achievements performance of the player, prizing his/her ability and highlighting key moments within the competition. Here the replay ceases to be literal, as the player is no longer playing the sequence. Nowadays, some games allow the player to interact with the point of view during the replay affecting the position of the camera, its movement and distance from the represented object. The 'replay culture'[735] includes practices such as the *speedrun* and *machinima* (the first examples of these practices

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[735] Cf. Henry Lowood, 'La cultura del replay. Performance, spettacolarità, gameplay', in Matteo Bittanti (ed.), *Schermi Interattivi: il cinema nei videogiochi*, Roma: Meltemi, 2008, [pp. 69–94].

are considered to be *Diary of a Camper*[736] for machinima and *Quake Done Quick*[737] for the speedrun).[738] In a way similar to the process described by Mulvey in relation to film and the still image, machinima freezes the simulative nature of the game, “killing” the life in it, converting the temporality of the video game image to a past tense. In this sense, the practice of machinima while emphasizing the possible proximity between cinematic and videoludic devices also points at contradictions. The bullet-time aesthetic reconciles this fracture. During bullet time, the hyper-presence of the video game is materialized; time is suspended while the action is still running; the triumphant performance or climactic moment is celebrating in its moment of becoming; the absence of time makes possible its ramification.

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[736] *Diary of a Camper* is considered the first example of machinima, not directly connected to the demonstration of technical skill but rather to the construction of a message external to the game’s rules and competition (in the video the player “frags” John Romero, one of the lead programmers of the game played). Cf. *Diary of a Camper*, United Ranger Films, 1996. Available online at Tony Walker, ‘Diary of a Camper’, in *YouTube*. Retrieved from http://www.youtube.com/watch?v=uSGZOuD3kCU (last access 28/11/2013).

[737] *Quake Done Quick* is the first example of speedrun that, unlike the machinima, is created with the purpose of contemplating and exhibiting players’ ability in completing the game or a portion of it in the minimum amount of time.

[738] Matt Kelland describes the rise of these practices in tandem with the competitive growth of the *demoscene* between the end of the 1980s and the beginning of the 1990s. *Quake Done Quick* is the first example of a speedrun which, unlike machinima, is created for the purpose of contemplating and exhibiting the player’s ability in completing the game or a portion of it in the minimum amount of time. Cf. Matt Kelland, ‘From Game Mod to Low-Budget Film: The Evolution of Machinima’, in Henry Lowood and Michael Nitsche, *The Machinima Reader*, Cambridge, Massachusetts: The MIT Press, 2011, [pp. 23–35].

[redacted]

Figure 23 - ***Max Payne 3***

This concept is pursued in a particularly extreme way in *Max Payne 3* (Figure 23), in which the aesthetic of the replay ultimately merges with the present expanding the original function of bullet time. If normally bullet time freezes or slows down the action in order to grant the player time to make strategic choices and to contemplate the event on screen, in *Max Payne 3*,[739] bullet time is not limited to the strategic choice of the player but instead envelops also its consequences within the same time frame. Whenever Max kills the last enemy of each environment the camera follows the trajectory of the "fatal" bullet towards the enemy, showing its wounds and

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[739] A similar technique has been implemented in *Fallout 3*, a first person RPG which combines traditional role-playing game mechanics with action aesthetics. The implementation of the V.A.T.S. (Vault-tec Assisted Targeting System) combines the possibility to strategically target specific parts of the enemy's body triggering a sequence in which the camera follows the trajectory of the bullet showing its dismemberment.

immortalising the spectacle of its death.

On the other hand, while the duration is variable, changed according to genres and depending on the skilful performance of the player (therefore the emergence of the speedrun as means of exhibition of the player's ability in competition with the 'normal' duration duration of the game), the impression of time in video games is often based on rhythm, the ability to alternate frames of rarefied time in which the player is not pressured by the game and is given freedom to explore the environments, as opposed to others characterised by density of events and in which time is structured. Here again, the case of *GTA V* exemplifies the dialogic relation between duration and rhythm. It is estimated that completion of every scheduled mission in this game takes over 100 hours of gameplay, but this value is only indicative of the possibility to "beat" the game within such time frame. Here the negotiation between the freedom granted to the player and the activities offered by the game infuses the game with rhythm, based on the alternation between explorative and contemplative sections and narratively driven ones.

As is hopefully shown by the survey offered here, the temporality of contemporary games is complex and emerges through stratified dimensions, which are effectively described as a system of multiple and interconnected frames that reflect the modular character of the medium. These frames are connected by staged events, environments and characters working as thresholds to new passages. These shifts across multiple time frames are exemplified by the iconic figure of the 'warp' (epitomised in Super Mario's omnipresent pipes), defined as: 'a "device" for changing time, space and narrative elements within fiction'.[740] The warp is an "alteration" that conjoins time frames of different "density". *Red Dead Redemption* precisely exemplifies the paradox of time in video games. The ideology of the simulation imposes the necessity for a consistent time flow, which in practice is often presented as a hyper-present. Here past and future are tied to actions and events rather than to the passage of time itself. Time in video games is fluid, continuous and immersive, but its density changes according to the activities and events generated by the machine at any given moment. In the new generation of action-adventures (and the hybrid sub-genres that borrow or inherit traits from them) time is often fragmented in communicating frames. These frames try to combine simulative qualities with dramatic ambitions. Resulting from this investigation, I propose the definition of *surface-time* to identify those frames in which time passes without affecting the world, the characters and its events (e.g. *Tomb Raider*), hence not determining any variation in the player's activity. The deployment of *surface-time* exclusively relates to perception and it is conveyed through audiovisual representative strategies with no consequences for the game world. In this sense, time is connected to the mediatised sense of "liveliness":

> Liveliness also contributes to the sense of a game being "real-time". If the gameworld is not lively, then the player is able to stop taking action for indefinite periods of real-world time and have no gameworld events occur during this period. A game with high availability but no liveliness has some, but not all, of the temporal features we typically associate with a "real-time" game.[741]

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[740] Alison Gazzard, 'Teleporters, Tunnels & Time: Understanding Warp Devices In Videogames', in *Breaking New Ground: Innovation in Games, Play, Practice and Theory*. Proceedings of DiGRA 2009. Retrieved from http://www.digra.org/digital-library/publications/teleporters-tunnels-time-understanding-warp-devices-in-videogames/ (accessed on 01/12/2013).

[741] Jose P. Zagal and Michael Mateas, 'Temporal Frames: A Unifying Framework for the Analysis of

On the other hand, I propose the concept of *deep-time* to describe those frames in which time is an active variable of the gameplay mechanics. It describes the passage of time that influences and affects the player's activity (e.g. *The Sims*), his/her choices (e.g. *Mass Effect*) and the activities available to him/her (e.g. *Skyrim*). Time, as a fluid dimension polarised between surface and depth, is intersected by the axis of *density* that characterises it in two ways: *procedural time* and *scripted time*. *Procedural time* is autonomously run by the machine fulfilling the ideology of the automatized simulation. For example, in *Skyrim* day/night cycles alternate in a consistent way suggesting the time passage is simulated rather than scripted. At the same time, events are activated only through the interaction of the player, often spatially triggered hence proving their scripted nature. In this sense, *Skyrim* provides a time model that is *deep*, in that it affects the activity of the player to a certain degree (the player won't be able to visit some locations at certain times of the day) but, at the same time, it also presents *shallow* frames. In fact, in *Skyrim* the passage of time partially affects the activities available to the player, but the events of the main quests are time-independent, waiting for the player's action in order to advance.

In Mulvey's account, the cinematic continuity system implodes under the pressure of stillness. Movement and stillness are at opposite ends of the cinematic image spectrum and the alternation between the two infuses it with life.

> While movement tends to assert the presence of a continuous 'now', stillness brings a resonance of 'then' to the surface. […] This is not simply a matter of movement and stillness, but of the single image as opposed to the filmstrip, the instant rather than the continuum. The reality recorded by

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Game Temporality', in Situated Play, Proceedings of DiGRA 2007 Conference, pp. 516–523 (p. 520).

> the photograph relates exclusively to its moment of registration; that is, it represents a moment extracted from the continuity of historical time.[742]

On a phenomenological level cinema is pushed in the past and the continuum identified by Mulvey unveils a more "discrete" character, revealing its temporal friction between filmic and profilmic. Video games, on the other hand, create a continuum that engages the player by anchoring him/her in the hyper-present. The cinematic relation between the stillness of the profilmic level that can never be animated, and the running film frames (in which the profilmic comes to life) is inverted in videogames. In the synthetic digital image, the objects represented are animated independently from their representation (the algorithms for the animation can run and operate regardless of the visualisation of their representation) and the digital frame can be dissected without interfering with their animation (the frame can be fixed while the animation runs independently). The reversal of this paradigm changes the phenomenology of time in video games, making it something fictitious and without reference to the physical world. Time in video games is constantly reversed and twisted in spirals. In his suggestive work of "ludophilia" (*Trigger Happy*), Steven Poole points at this quality of the video game medium by stating: 'We are used to thinking of "life" as a single, sacred thing, the totality of our experiences. But videogames redefine a "life" as an expendable, iterable part of a larger campaign'.[743] The aesthetic of repetition is emphasised both in content (video games represent cycles of life and death as passage elements within a continuous loop) and form (the iteration of the same actions with small variants). Moreover, the

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[742] Laura Mulvey, op. cit., 2006, p. 13.

[743] Steven Poole, *Trigger Happy: Videogames and the Entertainment Revolution*, New York: Arcade publishing, 200, p. 55.

saving and loading features work as a time bender allowing for the creation of new loops, which multiply and stratify the video game's fluid temporality.

The layered and hypertrophic quality of video game time is reflected also on the other side of the remediation process, in which video game aesthetics intersect with those of cinema. Bordwell points at the ludic character of some contemporary productions and at the emergence of a new genre, the puzzle film: 'As puzzle films, time-scrambling plots, and network narratives draw us into a game of story comprehension, the style asks us to become connoisseurs of pictorial contrivance'.[744] The multiplication and ramification of parallel dimensions, even in films not thematically connected to video games such as *Memento*, and the rhetoric of the "what if" develop an aesthetics of time influenced by the advent of new media both on a conceptual and technological level:

> The New Hollywood had been raised on Old Hollywood and 1960s art movies, but the Newest Hollywood brought TV, comic-book, videogame, and pulp-fiction tastes to the movies, and a free approach to narrative came along. The twists in *The Sixth Sense* (1999), *The Game* (1997), and *Fight Club* (1999) would not have been out of place in Rod Serling's *Twilight Zone* TV series. The young audience was drenched in modern media, from cable TV to computers, and viewers knew the standard moves of mainstream storytelling. They were ready to embrace innovations, especially if they built on the conventions of fantasy and science fiction (such as time travel, plays of objective and subjective perspectives, and "what-if" premises like that governing *What Women Want*, 2000). In

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[744] David Bordwell, *The Way Hollywood Tells It: Story and Style in Modern Movies*, Berkeley California, University of California Press, 2006, p. 188.

> harmony with their audience, the rising generation of directors grasped the narrative possibilities afforded by the home-video revolution. Thanks to videocassettes, fans could study clever plotting at length, and a director could drop in details apparent only in repeat viewings and freeze-framing.[745]

The hyper-articulation of temporality becomes a signature of video game aesthetics adapted for cinema, affecting the narrative complexity sustained by new technologies that deliver the promises of the "replay" to the audience. Chris Cooling describes these productions as 'mindbenders', which 'require multiple fruitions' implying the shift from spectator to 'spectator/player'.[746]

Time is an ideological filter to understand reality as a possibility, embodying the myth of simulation that is constantly advocated in video game literature. These discourses, juxtapose simulation to narration, presenting it as an alternative to codified forms of expression. Here their rhetoric is that of the "new" against the "old", of the "freedom" granted by multiple possibilities against the constraints of linearity. Gonzalo Frasca expands this paradigm, juxtaposing 'representation' to 'simulation'.[747] Although he states that 'Simulation is not a new tool'[748] he then argues that 'Video games imply an enormous paradigm shift for our culture because they represent the first complex simulational media for the masses'.[749] The author

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[745] Ibidem, p. 74.

[746] Chris Cooling, 'Per capire bisogna giocare. *Gerry* ed *Elephant* di Gus Van Sant e l'etica della narrazione del film videoludico', in Matteo Bittanti (ed.), *Intermedialità*, Milano: Unicopoli, 2008, [pp. 127–142], p 132.

[747] Gonzalo Frasca, 'Simulation vs Narrative', in Bernard Perron and Mark J. P. Wolf (ed.) *The Video Game Theory Reader*, New York: Routledge, 2003, [pp. 221–235] p. 223.

[748] Ibidem, p. 223.

[749] Ibidem, p. 224.

recognises the presence of a representational quality in simulation, which is nevertheless bound to a superficial and almost decorative dimension, such as 'the characteristic of objects and characters, backgrounds, settings, and cut scenes'.[750] In this sense, representation shapes reality. Frasca rightfully addresses the structural problems in video game analysis, underlining a fundamental difference between conventional forms of narration and simulation: the presence of rules and the necessity of an input from the users that generates different outcomes. Simulation is explicitly described in relation to time as a hyper-present, a constant possibility to become or to rewrite what has already been. Narration and performance are often juxtaposed as the first is a form located in the past, a time that cannot be changed, while the second unfolds in the present: 'To take the analogy further, simulation is the form of the future. It does not deal with what happened or is happening, but with what may happen. Unlike narrative and drama, its essence lays on a basic assumption: change is possible'.[751] The phenomenological quality of video game time is described as the possibility of change, of different paths and alternative dimensions that can multiply not only within the same text, but also within the same gaming session and sometimes within the same set of actions (*Prince of Persia: The Sands of Time*). Nevertheless, it is not time itself that is simulated, but its illusion and the impression of it, which is negotiated between the temporal affordances offered by each time frame and the performance of the player. The duration of the game depends on this negotiation and is variable, only partially controllable with rhythm and with the alternation between multiple temporal frames.[752]

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[750] Ibidem, p. 232.

[751] Ibidem, p. 233.

[752] The debate around time in game could be expanded with other examples that represent even more the variety and complexity of time frames articulated in video game production. For example, relevant to the production addressed in this study are titles such as *Braid* (Number None, 2009, USA), a puzzle game in which the player is given the possibility to reverse time, literally

If time is fluid, rhythm establishes its density showing an overarching pattern that disproves the primacy of simulation. Interestingly, Frasca coins the term 'simauthor'[753] as the simulation counterpart to the narrative author. Nevertheless, just as in narration the author generates a narrative instance (often impersonated by a diegetic or extradiegetic narrator), the term simauthor probably better defines the instance generated by the author of the simulation (the programmer, the designer or the entire team). This simauthor would then simulate the illusion of time providing the player with temporal references via mise-en-scene and filmic features, establishing its relevance in the gaming experience in order to make it dramatic, challenging, stimulating and, most importantly, interesting to the player. In fact, within contemporary video game productions, although technology allows the simulation of believable events, simulation is ultimately informed with the conventions of cinematic representation and often merges with them in order to deliver a dramatic experience.

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rewinding the actions of the player-character. Also relevant to debates on time is the possibility to pause the game and save in video games. On this topic, see Mark J. P. Wolf, op. cit., 2007, p. 87.

[753] Ibidem, p. 227.

Chapter 7 –

Hyper-continuity montage: interactive and expressive editing in video games

> The dominant camera of videogames, then, is far closer to that of art cinema than to mainstream Hollywood. The videogame's vision of "reality" is Bazinian, not Eisensteinian. Its virtual camera starts, records what happens without turning away, and cuts only at the end. While "videogame cinema," as discussed above, seems to imply an aesthetic of cut-and-paste and flashy, funky superficiality, the FPS and TPS modes actually look nothing like a Tony Scott movie. As cinema, the videogame would be not youthful rebellion, but the mature challenge of the avant-garde.[754]

Editing is one of the most prominent and specific aspects of cinema. Some of the most important debates in the field have been generated from reflections on editing. As underlined by Will Brooker, authors such as Bazin and Eisenstein tried to measure reality through theories of cinematic editing: its (apparent) absence on the one side and its explosion on the other. It is not by chance that in theoretical discourses on cinema editing is often a pivotal point of articulation, making it the key site of ideologies, politics and aesthetics, often at the same time. At an intrinsic level, it can be argued that editing, as the practice of cutting and joining frames, is the principle behind the illusion of the moving image. From Muybridge's experiments with chronophotography to *The Matrix*, the mechanism behind the 'impression of

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[754] Will Brooker, 'Camera-Eye, CG-Eye: Videogames and the "Cinematic"', in *Cinema Journal* v. 48 (3), 2009, [pp. 122–128] p. 128.

reality'[755] is the same: films are animated by the rapid succession of frames that run in front of the projector giving birth to movement, or at least to the illusion of it. Reflecting on the phenomenological nature of the editing process and its understanding in relation to the human mind, Walter Murch –in *In the Blink of an Eye*, a suggestive lucubration on the theory and practice of editing– compares the act of cutting to the blinking of the eyes. Through this analogy, the author explains the relevance of editing as a mental process, a way to "cut" the continuous flow of information as it is perceived by the eyes not only depending on physiological needs, but also according to patterns of interest and attention.

Through this analogy, editing becomes a way of organising reality, or at least its perception, separating events, moments, objects on which the eye focuses until it blinks, cutting perception as if it was a film, passing to the next scene. Editing is embedded in film form deeper than merely in the conjunction between shots. Each frame is joined to the next one twenty-four times a second, making the process of editing the foundation of film:

> The truth of the matter is that film is actually being "cut" twenty-four times a second. Each frame is a displacement from the previous one-it is just that in a continuous shot, the space/time displacement from frame to frame is small enough (twenty milliseconds) for the audience to see it as motion within a context rather than as twenty-four different contexts a second.[756]

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[755] Cf. Tom Gunning, op. cit., 2007.

[756] Walter Murch, *In the Blink of an Eye* (second edition), Beverly Hills: Silman-James Press, 2001 [1996], p. 6.

With regards to editing, as before in relation to the camera, the issue is complicated by the shift to a numerical image processing system which has occurred in the transition from analog to digital in which, on an ontological level, the discrete structure of the digital information fractures the continuous flow of the analogic film. The same principle applies also to video games, where it is impossible to "cut" the stream of data run by the machine. In video games the cut occurs at the level of the representation through which is displayed the image that mediates the data. Also for this reason, in video games editing is associated with the presence of cut-scenes, short edited sequences that provide narrative information about the story and that work as a background to the ludic activity, the latter generally being considered as the core of the gaming experience. As noted by James Newman, from the mid-1990s cut-scenes became a fundamental part of video game language thanks to the expanded memory capacity provided by optical disc media.[757]

More broadly, in cinema editing is the practice of 'connecting'[758] multiple shots (each one resulting from a sequence of frames) according to narrative, stylistic and ideological principles. In this sense, editing is revealed as be an ambiguous term, almost an oxymoron, as it contains both the act of cutting and joining images, of taking them apart and bringing them together. The complexity of this practice is reflected in the variety of terms used to address, to define and to theorise it. "Editing", "joining", "cutting", "montage", "decoupage" all identify different aspects of this filmic process, variously intersecting with other (often politicised) cinematic discourses. This abundance of vocabulary only points at the impossibility of univocally identifying the object of the study, inflected in a multitude of professional,

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[757] Cf. James Newman, op. cit., 2013, p. 91.

[758] Valerie Orpen, *Film Editing: The Art of the Expressive*, London: Wallflower, 2003, p. 1.

theoretical and technical paradigms that are reflected in this tentacular taxonomy. The prominence of editing in cinematic discourses is not only demonstrated by the amount of critical literature concerned with the topic, but also by the prolific volume of professional manuals dedicated to the subject. In fact, editing is as much the object of technical debates as it is theoretical enquiries, to the point that these dimensions often merge in the person of professional editors who challenge and reflect on their practice through critical and theoretical writings. With this perspective in mind, we can draw a line that connects the seminal writings of Sergei Eisenstein (director and editor of *October*[759], *Battleship Potemkin*[760]) to the inspired reflections of Walter Murch (editor of *Apocalypse Now*[761]), showing the deep investment of editors not only with their work but also with the ideas around it. The merging of practitioners and theoreticians speaks for the complexity and the broad range of this subject which requires a deep technical understanding in order to develop reflections on its status and its place in cinema.

The meaning of editing is found at the intersection between "separation" and "connection", as two sides of the same phenomenon both resulting from the same gesture. In an attempt to summarise the diverse aspects of this filmic process, Valerie Orpen positions this terminology within two semantic spheres:

> This interesting semantic field offers different approaches: 'cutting' and 'editing' suggest pruning, curtailing, rejecting, removing, while 'joining' conjures up to the notion of adding and accreting, and 'découpage' broadens the import of editing and hints at its overarching design. These

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[759] Sergei Eisenstein, *October*, 1928, Soviet Union.
[760] Sergei Eisenstein, *Battleship Potemkin*, 1925, Soviet Union.
[761] Francis Ford Coppola, *Apocalypse Now*, 1979, USA.

> contrasting approaches reflect different aesthetics (and possibly also national differences): the whole versus fragmentation.[762]

On the one hand, "cutting" and "editing" are used to identify the material scission in the film, the breaking down of its parts and the exclusive process of selecting the filmed materials. On the other hand, "joining" and "montage" highlight the cumulative effect of sequencing frames together. Editing is the process of polishing the filmed material and keeping what is relevant, eliminating imperfections and creating a seamless and smooth experience. In this sense, editing is associated with the classical Hollywood system, in which this process assumes an extremely technical dimension that subordinates artistic choices to functional determinants.[763] Nevertheless, editing is also joining and creating meaning out of different materials. In this sense, the idea of editing as joining can be associated with avant-garde movements, particularly with the Soviet school: 'Eisenstein's films and writings center on the concept of montage (the French word for editing), which has come to signify a style emphasizing the breaks and contracts between images joined by a cut'.[764] Joining is here synonymous with juxtaposition as the connection between shots generates the clashing of the worlds contained in each of them. Testifying to the difficulty in classifying this subject, Karel Reisz and Gavin Miller further problematize this issue in relation to the use of the word "montage", which acquires different acceptations depending on place and time. In fact, this word lives in the tension between its Russian acceptation –editing based on juxtapositions– and its use

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[762] Valerie Orpen, op. cit., 2003, p. 2.

[763] In the studio system, the editor is considered like a technician, an operator that materially assembles the scenes according to the vision of the director and his activity is regulated by rules predicated on the basis of genres and studio polices.

[764] Timothy Corrigan, Patricia White, *The Film Experience: An Introduction* (2nd edition), Boston, New York: Bedford /St. Martin's, 2009, p. 139.

in Anglophone and French contexts:

> The term montage has been loosely employed in so many different contexts as to need definition. It was used by early Russian directors as a synonym for creative editing and is still used in France to denote simply cutting. The term montage sequence as used in British and American studios means something more specific and limited: it refers to the quick impressionistic sequence of disconnected images, usually linked by dissolves, super- impositions or wipes, and used to convey passages of time, changes of place or any other scenes of transition. It is with this last kind of sequence that we are here concerned.[765]

Orpen, identifies the difficulty of studying editing due to its elusive character, leading her to the point of questioning its very existence and asking: ‘Does editing exist?’ The question is rhetorical and the answer is to be found at the intersection between the “cut” and the “joint”, requiring a nuanced articulation of its definition. In fact, the author suggests the use of the term decoupage –also from the French– due to its capacity to include a larger idea of editing. The word “decoupage” describes not only the practice of editing, but also the conceptual and creative process that precedes the technical one, ultimately encompassing the entire structure of the film. As a consequence, in the interpretation provided by the author, decoupage combines both the filmic and profilmic level of the moving image:

> According to Burch, an awareness of this meaning helps to conceptualise film as a convergence of the spatial fragments of the shooting process with

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[765] Karel Reisz and Gavin Millar, *The Technique of Film Editing* (Second Edition), Oxford: Focal Press (Elsevier), 2010, p. 87.

> the temporal fragments established in the editing. In other words, 'découpage' as a structural concept helps to place editing in a much broader context.[766]

Through a trajectory similar to the one traced previously in discourses on mise-en-scene, the author recognises the necessity to consider editing always in relation to the other elements of film, including staging and filming. Consequently, according to Orpen, 'editing exists only *in relation to*, as a *counterpart to*, the shot. In other words, it is impossible to isolate editing, to analyse the cuts *per se*, that thin line, or 'switching', that demarcates one shot from another'.[767] Moreover, she identifies two main approaches to editing that help to account for particular historical waves:

> There are two principal ways of considering editing: either as connective or as expressive. Editing can be predominantly connective, or may appear so but in fact be subtly expressive. Editing may express or connect 'invisibly' or seamlessly, but it may also be graphically, temporally, spatially and/or rhythmically ostentatious. Of course, invisibility is relative and depends on a 'norm' which is taken to be classical continuity editing.[768]

Here, the paradigm established before –the one associating cutting with mainstream cinema and joining to stylistic montage– is reversed. Through this framework, "joining" becomes the operation of creating continuity, providing a seamless cinematic experience of space and time, while "cutting" evokes the rupture of the

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[766] Valerie Orpen, op. cit., 2003, p. 2.
[767] Ibidem, pp. 2–3.
[768] Ibidem, pp. 2–3.

suspended state of cinematic illusion generated in modernist styles. Orpen identifies the first as the capacity of editing for connecting and establishing organic relationships between different elements. On the other hand, Orpen characterises editing also for its expressive quality, its ability to connote rather than denote the profilmic reality. This is partially a provocation from the author, who registers a lack of interest in alternative and expressive practices of editing opposed to the focus on its ability to "connect", as presented in the work of Bordwell.[769] Orpen then references Noel Burch to highlight the disparity between these two fields of research: 'It soon transpires from the literature that editing as an expressive technique is largely taken for granted. We all know that it is expressive, but it is more difficult, uncomfortable even to explain why and how. Editing is far more elusive. […] In fact, Noel Burch uses the word "intangible" (1973: 46)'.[770]

If editing is an intangible concept within film studies, its relevance in the context of video games is inevitably even harder to pin down. The absence of a material reality referenced by the image, which is substituted by the synthetic world of the machine, and the lack of a physical base to be "cut" and "joined" further complicate an understanding of editing in this digital medium, making it elusive to classification and even to analysis. These issues summon a number of questions in relation to the nature of editing in video games and its definition: When do we consider the videoludic image as "edited"? How does editing occur in the digital medium? Does it account only for pre-rendered sequences or also for interactive gameplay sessions?

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[769] Explaining the influence of the continuity editing model, David Bordwell and Kirsten Thompson write: 'Around 1900–1910, as filmmakers started to use editing, they sought to arrange their shots so as to tell a story coherently and clearly. Thus editing, supported by specific strategies of cinematography and mise-en-scene, was used to ensure *narrative continuity*. So powerful is this style that, even today, anyone working in narrative filmmaking around the world is expected to be thoroughly familiar with it.' Cf. David Bordwell and Kirsten Thompson, op. cit., 2004, p. 231.

[770] Valerie Orpen, op. cit., 2003, p. 3.

How do we individuate a cut in a numerically processed artefact? Can we talk about editing without cuts? What is the function of editing in video games and how is it deployed?

The opaque taxonomy surrounding the concept of editing parallels the uncertainty that accompanies the labels used to identify edited segments in video games, which have been variously categorised as "cut-scenes", "cinematics", "interludes", "non-interactive sequences" reflecting a range of qualities that seem to characterise this feature. In fact, video game cut-scenes are associated with non-interactivity due to their historical status as pre-rendered videos (CGI or live-action) that were used to introduce, develop or conclude video game narration. Typically cut-scenes condense events through editing, resulting in an iconic "cinematic" appeal that has always been associated with them, requiring the player to "take the backseat" and "passively" enjoy the cinematic ride. Newman describes the derogatory attitude that characterises most of the literature on cut-scenes:

> Videogame designer Richard Rouse (2001) argues that cut-scenes shift the mode of engagement from 'interactive, participatory play' to 'passive, detached watching'. […] In posing this question, Rouse cuts to an issue that is central to understanding the videogame as a medium: whether play entails *interaction* and whether *narrative*, conversely, entails *non-interaction*.[771]

As seen in the previous chapter, the temporality of games is generally framed within discourses about the "presentness" provided through the continuous flow of the

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[771] James Newman, op. cit., 2013, p. 93.

experience. On the contrary, cut-scenes are associated with the construction of elliptic temporalities and a sense of progression, typically associated with older linear audiovisual media. In this sense, cut-scenes –together with interactive cinema– are often addressed as a superfluous distraction from the essence of video games. Consequently editing is seen as a disruptive force in the gameplay flow, an imposition of "passive" filmic qualities on the interactive experience of the simulation:

> A corollary of my previous claim about actionable space is that gaming makes montage more and more superfluous. The montage technique, perfected by the cinema, has diminished greatly in the aesthetic shift into the medium of gaming. The cinematic interludes that appear as cut scenes in many games do indeed incorporate montage, but gameplay itself is mostly edit free. […]. A game like *Manhunt* uses montage, but only when it explicitly copies the conventions of video. So while there may exist montage between different modes of the game, there is little montage inside the distinct modes of gameplay.[772]

This position is exemplified in the arguments of Alexander Galloway who points at the superfluous status of editing in video games, which merely haunts the 'cinematic interludes' of this interactive medium. In these instances, editing is a resonance of older audiovisual forms, no longer necessary to the game experience apart from exceptional cases that only underline the montage-free norm. Interestingly, in this passage the author uses the word "montage" in its contemporary acceptation, as described by Reisz and Miller, as an ensemble of shots that disrupts the pace of the

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[772] Alexander R. Galloway, op. cit., 2006, pp. 64–65.

audiovisual text as it compresses time in service of narrative. According to Galloway, the narrative function exerted by cut-scenes over time is being progressively superseded in the construction of narrative spaces.

On the other hand, some commentators claim the relevance of the video game cut-scene is not confined to a narrative purpose but also constitutes an integral part of the gaming experience. Rune Klevjer, for example, stresses the importance of cut-scenes in pacing the gameplay and giving it rhythm. The author identifies the importance of cut-scenes in the organisation of the gameplay to the point of defining these sequences as 'never truly cinematic'. Instead, they satisfy specific functions of games and play: the need for rest and rewards:

> A cutscene does not cut off gameplay. It is an integral part of the configurative experience. Even if the player is denied any active input, this does not mean that the ergodic experience and effort is paused. A cutscene is never truly 'cinematic', no matter how poorly implemented it may be. In any case, it can not avoid affecting the rhythm of the gameplay. […] They create a characteristic rhythm in which the regular interruption/release is always expected. As a player you quickly learn the code, constantly being thrown rapidly in and out of bodily ergodic effort.[773]

In opposition to the use of "montage" as found in Galloway, Klevjer's definition of cut-scenes partially restores a sense of historicity to this term. By contextualising cut-scenes within the whole structure of the game (not only its narrative), the

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[773] Rune Klevjer, 'In defence of cutscenes', in Franz Mäyrä (Eed.), *Computer games and digital cultures conference proceedings*, (2002), [pp. 191–202] p. 195. Retrieved from www.digra.org/dl/db/05164.50328.pdf (accessed on 11/03/2015).

relevance of editing exceeds narration and appears, for example, in the form of rhythm, emerging from the juxtaposition between moments of intense activity and relaxation. Also Newman challenges the binary opposition between the non-interactivity of cut-scenes and the interactivity of gameplay, arguing for their role as breaks in the gameplay flow, but also pointing at the often-claimed and fallacious separation between interactive levels and the non-interactive edited sequence.

> Both framing and providing continuity, these non-interactive sequences demand high degrees of player activity as strategy and meaning are worked and reworked. While it is an oversimplification to suggest that interactivity and activity can be neatly confined within the boundaries of ‘levels’ and ‘breaks’ respectively, it is clear that to equate non-interaction with inactivity is quite erroneous.[774]

Newman disputes the clear-cut distinction between gameplay and edited sequences hinting at the possibility of a more fluid coexistence of the two. This accurately reflects the nature of interactive editing in contemporary titles, in which space and actions are often visually fragmented through the juxtaposition of multiple shots that combine different camera angles. In these games, editing is *functional*, *interactive* and *expressive*. Cinematic games such as *Metal Gear Solid IV*, *Tomb Raider*, *The Last of Us*, *Far Cry 3*, *Mass Effect*, *Dead Space* and *Grand Theft Auto V* make considerable use of editing not only in cut-scenes –as a means to convey story and narration– but also within the gameplay and as a tool for the player to express him/herself through cinematic means and to literally edit his/her own performance.

As evinced from the mythical accounts passed on by Vsevolod Pudovkin based on

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[774] James Newman, op. cit., 2013, p. 88.

the experiment undertaken by director Lev Kuleshov, the semiotic value of two images combined together exceeds the sum of their individual meanings: ‘Kuleshov’s experiments had revealed to him that the process of editing is more than a method for telling a continuous story. He found that by suitable juxtaposition, shots could be given meanings which they had hitherto not possessed.’[775] Regardless of the accuracy of this account, the power of editing lies in the ability to create meaning out of the juxtaposition of multiple images, hence editing is always an expressive practice. Supporting this theoretical tradition, the term “montage” is associated with the emergence of Russian modernism and particularly with the theories of Pudovkin and Sergei Eisenstein. It is indeed Eisenstein who provides some of the first and most compelling reflections on editing and montage, stressing its value not only for providing connection and cohesion but also, and most importantly, as a tool to create tension through juxtaposition. In one of his more extreme theoretical suppositions, Eisenstein drew a parallel between the idiomatic character of Japanese language and the possibility of creating similar structures through cinematic montage.[776]

As acknowledged in previous chapters, analogies between natural languages and cinema are recurrent in film theory, notably addressed in the work of Christian Metz, and more recently adapted by the media theorist Lev Manovich. More specifically in relation to editing, Noel Carroll echoes the work of David Bordwell (and his work on schemas[777]) using cognitive theory to explain editing and its phenomenology:

> To summarize, editing is a communication practice based on cutting which

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[775] Karel Reisz and Gavin Millar, op. cit., 2010, p. 15.

[776] Cf. Sergei Eisenstein, ‘Beyond the Shot. The Cinematographic Principle and the Ideogram’, in Leo Braudy and Marshall Cohen (eds.), *Film Theory and Criticism* (seventh edition), Oxford University Press, 2009, [pp. 13–24].

[777] Cf. David Bordwell, *Narration in the Fiction Film*, Madison: The Board of Regents of the University of Wisconsin, 1985.

> prompts the spectator to infer the significance of a shot chain in terms of the best available account of the shot chain. The grounds of inference are numerous and varied, including several types of narrative considerations, as well as sensuous and thematic comparisons and contrasts, and linguistic and conceptual evocations. These grounds serve as inductive premises, which, when combined with the particularities of the film itself, and the broader historical context of the film, yield hypotheses about the significance of the shot.[778]

According to this perspective, editing is explained in terms of cinematic communication, recognising in the spectator the ability to infer the meaning of images based on previous experience that generated schemas: cognitive maps built out of genres, iconography, patterns and stylistic similarities; these –together with the information contained in each film– allow the understanding of the moving image both as individual text and within its cultural context of fruition.[779] This cognitive approach has been mostly studied in relation to Hollywood continuity editing, generally defined as seamless and invisible due to its ability of leading the spectator through the events without foregrounding the presence of the narrative instance. This is what Orpen defines as a 'connective' understanding of editing that is bound to the functional exposition of narration. For this reason, continuity editing deploys a number of formal features that mask the passage from one shot to the other, creating

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[778] Noel Carroll, 'Toward a Theory of Film Editing', in *Theorizing the Moving Image*, Cambridge University Press, 1996. [pp. 403–419] p. 416–417.

[779] In a dedicated article, David Bordwell further defines this concept: 'A schema is a knowledge structure that enables the perceiver to extrapolate beyond the information given. Our schema for car breakdowns enables us to fill in what is not immediately evident in the flat-tire situation; we go beyond the immediate picture of a breakdown to extrapolate the driver's plan for getting going again'. David Bordwell, 'Cognition and Comprehension: Viewing and Forgetting in *Mildred Pierce*', in Journal of Dramatic Theory and Criticism, v. 6 (2), (Spring) 1992, [pp. 183–198] p. 185.

a sense of smooth transition in time and space:

> How does one define continuity editing? It is commonly associated with the classical narrative system which enables a story to be narrated with the least possible disruption and disorientation to the viewer: ‘The purpose of the system was *to tell a story* coherently and clearly, to map out the chain of character’ actions in an undistracting way’ (Bordwell and Thompson 1986: 210). […] Since classical cinema’s main purpose is supposedly to tell a story coherently and without distractions, it follows that continuity editing is not intended to be noticed, or rather, should never be obtrusive without good reason. It appears ‘invisible’ and ‘seamless’ and therein lies its strength and its staying-power. It must be emphasised, however, that these notions of ‘visibility’ and ‘invisibility’ are only relevant in the context of normal viewing conditions, namely during first, uninterrupted projection in a cinema or on a video/DVD. As soon as one begins to study a film, to examine it in detail, sequence by sequence, shot by shot, the visibility of even the most understated editing will become foregrounded. [780]

In the light of the different modes of consumption of contemporary cinema, Orpen questions the assumptions behind the invisibility of this system. With the diffusion of devices for home-reproduction such as VHS and DVD, the public film experience became reproducible and infinitely repeatable, requiring an interrogation of the phenomenological premises behind the moving image. As noted by the author, the “invisibility” of editing is relative and dependent on the context of consumption of

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[780] Valerie Orpen, op. cit., 2003, p. 16.

the film. In spite of the seamless construction provided by means of continuity, the structure of the film is progressively foregrounded via repetition. As mentioned before, David Bordwell makes similar remarks in referencing the ludic qualities of 'puzzle movies' and the increasing complexity of Hollywood narratives since the advent of home systems that, he explains, encouraged practices of multiple viewings allowing directors to create ludic films, artefacts to be re-played and to play with (hence, the name puzzle-film).[781] The complex structure of these films is foregrounded to the point of becoming a ludic element offered to the spectator, who must reconstruct the relationship between story and discourse in the film, thus deconstructing its editing structure.

Consequently, when imported to the video game medium, even the most seamless editing strategy is foregrounded by its repetitive nature, signalled to the player through endless iterations that create a contradictory feeling of familiarity and estrangement as the cuts use codified means to dramatize the virtual environment while exposing the fictional character of the representation. Some of the most prominent and recurrent features of the continuity editing are: the use of establishing shots; the alternation between shot and reverse-shot; the 180° rule and the use of transitions and inserts to signal the passage of time. The minimum common denominator of these techniques is '[t]he necessity to preserve a clear sense of direction [which] is not limited merely to the placing of the camera. […] If the actor walks out of frame to the right, it will be perfectly acceptable if he enters the next

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[781] Cf. David Bordwell, *The Way Hollywood Tells It. Story and Style in Modern Movies*, Berkeley: University of California Press, 2006, p. 80. See also David Bordwell, 'Nuovi media vs narrazione tradizionale: sette congetture e una provocazione', in Matteo Bittanti (ed.), *Schermi Interattivi: il cinema nei videogiochi*, Roma: Meltemi, 2008, [pp. 15–32].

shot from the left […]'[782]. This mechanic is clearly found in video games and, as seen in the previous chapters, constitutes the basic principle of spatial cohesion in adventure and 2D platform games.[783] Here the cohesion between multiple environments is provided by preserving the sense of direction, as characters enter and exit from the opposite sides of the frame. This implies, for example, a respect for the 180° rule, which dictates that the stage is divided in two semi-circumferences within which the camera can move to reframe the action preserving, at the same time, the sense of direction. The same rule applies for the shot/reverse-shot technique, in which two profilmic elements in front of each other are connected through an axis that divides the profilmic space in two halves. Once the side from which the camera frames the action is established, the axis will hardly be trespassed via cuts between different shots. Similar principles lie at the basis of the editing style seen in video games. In most beat-em-up titles, the axis connecting the two fighters establishes the space in which the camera is allowed to move. Here the space shifts as the two fighters move on the stage, but the action is rarely framed from the other side when deploying cuts. Camera movements instead can take the player around the characters, moving the viewpoint in an uninterrupted shot that keeps track of the positions of the elements within the composition. Another way to trespass the axis is through the deployment of inserts: 'a brief shot, often a close-up, […] The use of inserts helps to overcome viewers' spatial separation from the action, pointing out details significant to the plot or underscoring verisimilitude –for example, showing us a ringing phone.'[784] Inserts are frequent in video games and they are used in order to disclose the position of an element within the environment. These are often

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[782] Karel Reisz and Gavin Millar, op. cit., 2010, p. 186.

[783] These games are based on a spatial typology that Mark Wolf defines as 'adjacent spaces displayed one at a time', for which the virtual environment is composed of multiple spaces next to each other. Cf. Mark J. P. Wolf, op. cit., 1997, p. 16.

[784] Timothy Corrigan, Patricia White, op. cit., 2009, p. 149.

elements needed by the player in order to complete a task or solve a puzzle, and are thus necessary to progress in the game. This device is especially used in platforms and action-adventure games, in which the combination of complex virtual environments and puzzle solving dynamics requires the development of a filmic instance capable of showing relevant objects, spots and characters within the large environments. For example, in the first two titles of *Tomb Raider*, cuts would often occur when the player-character activates a mechanism opening doors or disclosing new items, required in order to progress in the levels. Moreover, as mentioned before, inserts like this can be used to trespass the axis established by the 180° rule. Such is the case, again, with fighting games that deploy close ups and micro-cutscenes to emphasize combos executed by the player or the damage inflicted upon a character, gaining at the same time an opportunity to re-establish the portion of environment in which the camera can be placed.

Hence editing is a fundamental tool for the filmic construction of space; but it is used also in order to organise time and its perception, in fact, devices such as dissolves, superimpositions, fade-outs and fade-ins:

> […] indicate a more definite spatial or temporal break than do straight cuts, and they often mark breaks between sequences or larger segments of the film. […] A number of other transitions between shots or scenes are most often found in older films, especially silent films. The iris-out begins by masking the corners of the frame in black and gradually obscuring the image as if a camera shutter were closing; an iris-in opens a small, usually circular, portion of the frame and gradually expands to reveal the entire

image.[785]

As seen in the previous chapter, some of these features do not only mediate the perception of diegetic time, but they also convey a form of meta-information concerning the extradiegetic life of the text. For example, as underlined by Timothy Corrigan and Patricia White, iris transitions are associated with early cinema forms, in which the pantomimic and theatrical styles are generally more evident in opposition to contemporary standards of “realism”. These editing techniques were used to mark the passage of time and spatial disjunctions in ways that were clear and intelligible to the audience. The increasing audiovisual literacy of the audience progressively made these “embellishing” markers redundant, standing as signifiers of the fictional nature of the audiovisual artefact rather than helping to maintain a credible illusion. The introduction of sound also affected the way in which diegetic temporality, was represented often relying on verbal cues to convey temporal information, and sound effects to signal the passage to flashback and flashforward. Nowadays, techniques such as the iris convey extradiagetic information about temporality rather than simply fulfilling a diegetic function, being associated with the silent cinema, hence evoking ideas of nostalgia and cinephilia. Similarly, video games have repeatedly deployed these techniques in the past, especially before the transition to 3D graphics. In *Super Mario Bros. 2*[786] the iris is used to signal the transition from the map to the actual levels, indicating a more significant spatial/temporal displacement than the one occurring in the passage between the different areas of each level. A similar technique is used in the more recent *Super Mario Galaxy*, which uses the iris as means of transition between galaxies. Also in

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[785] Ibidem, p. 145.

[786] *Super Mario Bros. 2,* Nintendo, 1988, Japan.

this case, the iris is used to create a clear “cut”, a caesura that separates macro-sections of the game generally addressed with the name of “worlds” (clusters of narratively or themed connected levels) following established platform conventions. In this sense, editing can be considered as the process of pacing the game, creating temporal and spatial cuts in according with narrative necessities but also for functional reasons. This is the macro-level of editing that establishes the order of the events and signals a stronger separation between the different sections. At the same time, transitions in video games are used also to fill loading times allowing the machine to access and process new data. Most games, for example *Call of Duty Modern Warfare*, use simple briefing screens that provide relevant information on the next mission to the player. Others, such as the first episodes of *Resident Evil*, use the loading time to create atmosphere and tension through a subjective shot that frames a door opening in the dark.[787] In this sense, *Half-Life* represents a watershed for its relatively infrequent use of loading screens substituted by areas of transition within the level and during which the game loads the next environment without making the player aware of this process. This aspect of the game was particularly praised, showing the problematic and controversial nature of macro-editing (the division into larger game sections) in video games.

As previously highlighted, the repetitive character of the experience and the foregrounded position of game structure over the narrative contents point at the inconsistency and loss of control experienced by the player during edited sections. In fact, the player easily becomes aware of the predetermined structure of the game and

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[787] Due to the survival horror nature of the game, this device establishes an interplay between the tension and the anticipation for discovering what awaits in the next area. In fact, in these games the player-character is often under-equipped and unable to directly confront all the enemies, requiring the player to strategise resources and avoid conflict.

of its representation, breaking the fourth wall and interrupting the sense of immersion. Alternatives to this are offered in *Assassin's Creed* and *Mass Effect*. In *Assassin's Creed* the loading screens depict the player-character in a virtual limbo that anticipates the descent into the Animus,[788] diegetically integrating these sections with the rest of the game and allowing the player to keep control over the character, consequently preserving the consistency and cohesion of the game experience. *Mass Effect* instead presents a hybrid case, as it combines both screens with textual information, brief cut-scenes and in game loading areas. The last ones, in particular, come in the form of elevators that force the characters to stand still while justifying the loading time. In this case, the attention of the player is occasionally recalled through dialogue exchanges that provide information on the relationships between the members of the party.[789] Finally, more common transitions such as the fade to black are used in video games to indicate the death of the player-character. Due to the repetitive nature of the ludic situations, editing encloses the failed attempts through cyclical portions of time, updating the concept of "lives" used in older generations,[790] in order to reflect the less ludic and more experiential nature of the artefact. In fact, nowadays the concept of "game over" is often abandoned in favour of an infinite trial and error progression that points at the evolution of games towards less punitive and more accommodating models. In this perspective, fades to black become a tool to articulate a larger spiral structure for which each failed attempt becomes a flashback, a *déjà vu* of an alternate present in the hyper-present

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[788] In *Assassin's Creed*, the Animus is the virtual reality programme that works as narrative pretext to the time travels in the game, allowing the protagonist, Desmond, to re-live the lives of his ancestors.

[789] These dialogues in *Mass Effect* work as rewards to the player that can determine the outcome of missions undertaken during the game, by shaping the feelings of the characters and their way of relating to each other.

[790] In older generations of games, the concept of the "life" was iconically represented by hearts, as in the Super Mario franchise. These icons stood for the number of attempts available to the player in order to complete a task or a level. This number could be fixed or dynamic, and extra-lives could be collected during the game to replace the ones lost.

experience. This experience automatically restarts on the last ring of the spiral reached by the player (the last save point), as filmic devices such as the fade to black negotiate between "present" and "past-present" creating a sense of a never-ending loop and hyper-continuity.

Michael Nitsche's work offers the most extensive analysis of the interactive quality of editing in video games, expanding considerations of this concept from the domain of cut-scenes and conceptualising it not only terms of breaks between the macro-sections of a game, alternating between game and narrative, but also as part of the gameplay. In the light of the ontological differences between games and films, the author argues against the definition of 'editing cuts' being applied to video games, finding it unsuitable due to the digital nature of the medium. He argues for the impossibility of identifying cuts and expands the concept of editing to all those features that cause a relevant change to occur in the visual presentation.[791] The dismissal of the idea of the "cut" as a theoretical tool seems unnecessary, especially considering the premises of the arguments presented by the author, which analyse and explore the mediated level of the game, hence its audiovisual representation. As such, video games constantly deploy cuts, not only during cut scenes, but also during the game as for example in the passage between the diegetic world and extradiegetic interfaces. More interestingly, later the author redefines the cut as a substantial variation in the data flow perceived by the player. This idea suggests a concept of editing compatible with the reflections offered by Manovich and Murch with regards

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[791] Michael Nitsche, 'Videogame e montage. Alcune considerazioni sul montaggio interattivo', in Matteo Bittanti (ed.), *Intermedialità*, Milano: Unicopoli, 2008b, [pp. 83–106]. The translated version of all the quotes taken from this essay was retrieved from an unpublished draft in English, uploaded on the author's webpage. Cf. Michael Nitsche, 'Editing in Video Games', paper draft, 2008. Retrieved from http://lmc.gatech.edu/~nitsche/download/Nitsche_EditingGames_draft_0.pdf (accessed on 10/03/2015)

to digital editing processes and the random form of access granted to information:

> Computerized editing systems achieve most of their speed by retrieving the requested material instantaneously, which is what we mean by "instant random-access." This allows the editor to do such things as effortlessly compare line readings from different takes. But random-access ultimately depends on knowing exactly what you want... and that is not always the case, as any editor can tell you.[792]

Indeed, the capacity for instant access granted by the digital nature of the information is fundamental in allowing interaction with the editing process and the possibility for the player to fully or partially take control of it, as the machine can simulate the movement of the camera anywhere in the virtual space at any time. Referencing Manovich, who detects an anti-montage tendency in the language of new media, Nitsche asserts a key difference between cinematic and videoludic presentation, defining the use of audiovisual tools as artistically driven in cinema while considering them mostly functional in relation to video games. In fact, while Nitsche claims that artistic implementation can surpass and question such a plain ‘usefulness’[793] of the virtual camera and editing, he then also rejects the possibility of Eisenstein's ‘assembly of different visual attractors’ as source of more effective editing and instead suggests that the ‘player-character position is the single most dominating reference for these cuts’ efficiency’.[794] Hence, according to Nitsche, the character-centric video game system prevents the possibility for multiple viewpoints as achievable in cinema. This statement feels incoherent with the choice of the author

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[792] Walter Murch, op. cit, 2001, p. 107.
[793] Michael Nitsche, op. cit., 2008, p. 117.
[794] Ibidem, p. 126.

to use the word “montage” as synonymous with “editing”, which instead deserves to be expanded also in relation to his theory of functional editing.

Moreover, the taxonomy offered by the author refuses any distinction between camera movements, (a uninterrupted shift in the position of the camera from A to B) and cuts (when the camera shifts from A to B by cutting between in between two shots). Nitsche argues for the functional character of video game montage with respect to gameplay, while in cinema priority is given to following the events of the narration. In video games the focus is on the input of the player that needs to be represented in the most effective possible way, in order to allow him/her to efficiently interact with the text. Using Orpen’s argument for a nuanced analysis of film editing that considers it in relation to the other layers of the moving image, this distinction can be more productively reframed with a model that is based on two types of editing: editing cuts and in-camera editing. The second category acknowledges the significant use of long-takes and of deep focus in video games, which take to extremes Bazinian theories on cinematic realism. Not only does this model allow a wider –yet theoretically coherent– acknowledgement of the presence of editing in video games, but it also points at the aesthetic tension generated by the contrast between continuous and fragmented representations.

The most important insight provided by Nitsche lies in his definition of two types of interactive editing: direct and indirect.[795] The notion of direct interactive editing refers to the technical and aesthetic distinction between the controls of the player-character and the camera. Nitsche uses *Super Mario 64*[796] as an example of the

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[795] Cf. Michael Nitsche, op. cit., 2008b

[796] *Super Mario 64*, Nintendo, 1996, Japan.

implementation of this feature. In this game camera controls were diegetically justified through the character of Lakitu, who takes the role of an operator following the player-character and recording its actions. In this case, the player can directly control the camera movements, changing its position around the player-character through a dedicated stick on the controller in order to efficiently frame each situation. Nitsche provides more examples of this technique in games such as *Fatal Frame*[797] and *Prince of Persia: The Sands of Time*.[798] In these two titles the player can change viewpoints by pushing a button on the controller. Nevertheless, these cases entail a substantial difference from the previous model as a cut occurs whenever the player pushes the button, shifting the camera from A (established by the automatic camera system) to B (the position chosen by the player) creating two separated shots; instead, in *Super Mario 64* the camera moves from A to B with no cuts separating the two viewpoints. For this reason, it would be more accurate to talk about camera movements or even sequence-shot rather than montage, a concept which necessarily involves the presence of cuts. In fact, while using movement to bring the viewpoint from point A to B allows the player to follow the action and to keep track of the position of the player-character in relation to space, a clear cut increases the tension and the focus demanded from the player in order to understand the new position of the camera in relation to the elements in the environment. Indeed, the first problem of Nitsche's model lies in ignoring the theoretical differences between camera movements and editing cuts and assimilating the ideologies behind them. In a previous work on the POV shot, Nitsche negotiates the theory behind his model of interactive montage in relation to Eisensteinian juxtapositions, taking it closer to the continuous recording of reality at the core of Bazin's aesthetic theory:

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[797] *Fatal Frame*, Tecmo, 2001, Japan.

[798] *Prince of Persia – The Sands of Time*, Ubisoft, 2003, France.

> Instead of an assembly of different visual attractors [Eisenstein 1998] the player-character position is the single most dominating reference for the cut's efficiency. Instead of a guidance of the audience through the camera [Pudovkin 1959] the camera has to be guided by the player. Elements of Bazin's realist cinema seem to be closest to the demands of interactive montage – especially his demand for long takes, eye-level camera perspectives, and unobtrusive editing [Bazin 1967]. Such a reference makes sense in the light of the new "reality" that the playing of a game constitutes and the simultaneous visualization of it. Players realizing the event and its visualization might retrace Bazin's ideals not only in the event-creating gaming situation but also in the cinematic presentation and montage of it.[799]

The second category defined by Nitsche is that of *indirect interactive editing*. This model considers the player's input in an indirect way to explain its interactive character. Here, the change in the viewpoint is not activated by the pressure of a button, but triggered by events in the virtual space according to two variables: the player-character's position and its actions. Most of the time, the change is triggered by the movement of the player-character from A to B that forces the camera to shift position in order to follow the action. For instance, this system features in the first three chapters of the *Resident Evil* saga. As an example, the author also uses *ICO*[800], in which the viewpoints often emphasise the visual proportion between the player-character and the environment. The use of extreme long shots in this title connotes

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[799] Michael Nitsche, 'Games, Montage, and the First person Point of View', in *Changing Views: Worlds in Play*, Proceedings of DiGRA 2005 Conference, p. 3.

[800] *ICO*, Team Ico, 2001, Japan.

the castle (in which the main characters are prisoners) highlighting its role as a villain in the narration and as an active element of the gameplay in the form of environmental obstacles. Nevertheless, this system leaves to the player some possibility for interaction, allowing him/her to slightly adjust the direction of the camera and to zoom-in/out using the stick on the controller. The viewpoint is predetermined, yet its margins are flexible, making *ICO* rather a hybrid of direct and indirect editing. As an example of indirect editing based on the player-character's actions, Nitsche uses *God of War*[801], in which the change in the viewpoint is activated by QTEs. This is a system of dynamic cameras that dramatizes the actions of the player-character, in particular when facing an obstacle or an enemy. The QTE requires the player to master the use of the input interface in order to press the right button when a prompt icon appears on screen. In this specific case editing takes place with fast cuts that show the action choosing entertaining and spectacular viewpoints.

If Nitsche's interactive editing is closely attached to the functionality of this feature, emulating continuity editing theories by substituting gameplay for narration, Orpen points towards the identification of two further paradigms that exemplify the understanding of editing as an expressive practice:

> Broadly speaking, the study of the expressiveness of film editing has been polarised: montage theory (championed by Eisenstein) on the one hand, deep focus editing (extolled by André Bazin) on the other. Both theories attempt to demonstrate that one editing style is 'better' or more effective than the other, for ideological purposes –communist for Eisenstein, Catholic for Bazin. For Eisenstein, montage could create meaning not

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[801] *God of War*, SCE Studios Santa Monica,, 2005, USA.

> immediately evident in the shots themselves, and thus highlighting social inequalities. For Bazin, avoidance of editing presented the world as God had created it, with the least possible human intervention.[802]

Expressive editing is the opposite of invisible and instead announces either its presence or absence against the normativity of Hollywood's continuity system. Rather than denoting events and stories, here editing connotes them through ideological filters that aim to reach a reality beyond props and characters. As noted so far, video game editing is mostly associated with the Bazinian theorisation of the long take due to the pervasive presence of subjective and POV shots, which has led many scholars to negate or dismiss the relevance of discourses on editing in this medium: 'As a result, montage has become a silent force in video games. "Silent" because it has largely been ignored by the academic community. Analytical work in this area is still thin and fragmented'.[803] As seen at the beginning of this chapter, Will Brooker also emphasises the Bazinian nature of the video game image which challenges the fragmentation typical of contemporary cinema in order to achieve an uninterrupted recording of reality, consequently testifying to its existence. This is often associated with arguments on perception and the need to create a flow of experience that simulates presence in a virtual environment and immersion in it. Mark Wolf makes a similar remark associating the creation of a continuous point of view in video games with a higher level of interaction allowed to the player:

> To the degree to which video games are similar to films, they can also feature ellipses between shots and scenes, as well as compress time. But the more interactive a video games is, the more control the player may

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[802] Valerie Orpen, op. cit., 2003, pp. 6–7.
[803] Cf. Michael Nitsche, op. cit., 2008b, p. 89.

> have in the game's duration […]. Games with first-person perspectives and fluid three-dimensional movement through space […], however, show continuous points of view as a player moves; instead of a series of cuts, the effect is the creation of one long take until the level ends or the player-character is killed […].[804]

With reference to digital media, Nicholas Rombes explains the rejection of montage and the turn to the Bazinian aesthetic of the long-take not in terms of realism but, on the contrary, as the negation between human perception and mechanical capture through the camera lens. This creates a paradox for which the long-take, which is traditionally considered the aesthetic tool of realism and of the representation of reality, can never be truly experienced by the human eye, which instead needs to blink. Echoing Walter Murch and his suggestive analogy, the blink of the eye explains the emergence of modernist fragmented modes of vision that imitate human perception in terms of focus and attention, almost emulating the fragmented reality of a stream of consciousness:

> The digital movie camera extends this desire further, and encourages a new way of seeing, one that is open to the capturing of mistakes, errors, and randomness of the reality being filmed. Rather than tightly controlled montage – with each shot carefully planned and choreographed – the digital system allows for the uncontrolled emergence of the real into the frame, even as the manipulation and editing of those captured images is made all the more easy on desktop systems. It is almost as if the gains made in long-take realism are counterbalanced by the potential limits

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[804] Mark J. P. Wolf, op. cit., 2001, p. 86.

> imposed on those long takes by inexpensive editing interfaces. Perhaps the urge to break up or interrupt real-time long takes is rooted in our own experience of consciousness and perception, which rhythmically ‘interrupts’ the flow of our own processing of reality. For while it may be true that such a thing as a ninety-minute film exists with no cuts, it is also true that no human being could ever truly experience the event, as the very act of blinking serves as a momentary cut or edit: we lose multiple frames each time we blink. There is no long take for the viewer, only fragments of a long take uninterrupted by the act of blinking, just as sleeping interrupts or pauses our conscious absorption and processing of real-time reality. […] Extremely long takes made possible by HD remind us that, as humans, we can never approximate or replicate the camera eye, which does not blink, but rather captures a steady stream of information. Paradoxically, long takes are techniques we can never truly experience as long takes.[805]

Hence, the “continuous” character of digital editing, epitomised in the figure of the long take, works in a different direction to cinematic realism as it avoids montage and embraces an infinitely recording eye. Once again, mediation and vicarious experience are achieved through the means of hyper-mediation and the uninterrupted gaze of the camera which allows the player to experience immersion within the virtual world. Nevertheless, Bazin’s theory does not negate the existence of control in the experience of the continuous image, rather the uninterrupted recording of the camera allows the spectator to select details and the elements of the image to focus on and to autonomously create meaning. Editing is still present in Bazin as in-frame

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[805] Nicholas Rombes, *Cinema in the Digital Age*, London: Wallflower, 2009, p. 40.

editing, shifts in focus, depth of field and camera movements that select relevant portions of reality requiring the spectator to actively retrieve elements from the image in order to create meaning. As seen in the previous chapters, cinematic games similarly guide the attention of the player with lighting, staging, NPCs that channel the experience etc. Thiéry Adam reflects on this aspect presenting the concept of 'interactive cinematography', that explains in-frame editing in terms of small adjustments in the framing that interpret the points of interest of the player centring the camera to them. This system is exemplified in *Halo: Combat Evolved*,[806] which according to the author represents the ideal compromise of cinematic techniques applied to game design.[807] In *Halo* the game interprets the input of the player according to possible points of interests on and off screen. Moreover, depending on certain variables based on the strength of the input and on the elements within range from the player, the system magnetically adjusts the camera by centering it upon relevant objects. Once again, editing –even in its in-frame incarnation– is explained in terms of functionality and easy access to the ludic mechanics. The author underlines the importance of a camera system that autonomously adjusts itself to the context, always favouring the player with the best viewpoint as in the example of *Tom Clancy's Ghost Recon: Advanced Warfighter*,[808] which –he argues– refuses any analogy with cinematic techniques because of the exquisite functionality of the system.

Overall, there seems to be a general agreement on the minimal role of editing in video games and on the subservient functionality of its features in the service of

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[806] *Halo: Combat Evolved*, Bungie, 2001, USA.

[807] Cf. Thiéry Adams, 'Introduzione alla Cinematografia Interattiva', in Matteo Bittanti (ed.), *Intermedialità: Videogiochi, cinema, televisione, fumetti*, Milano: Unicopoli, 2008, [pp. 107–126] p. 107.

[808] *Tom Clancy's Ghost Recon: Advanced Warfighter*, Red Storm Entertainment, 2006, USA.

gameplay. Indeed, most editing techniques are generally subjugated to a functional use in games, literalising the metaphor by which filmic instances in video games become an interface that needs to be transparent, functional and efficient. Nonetheless, at the margins of these restrictions, there are other practices that highlight the potential for experimentation and for alternative ways of editing in video games.

Outside the model offered by Nitsche and Adams, the use of the split-screen in games such as *Heavy Rain* and *Heavenly Sword* exemplifies the possibility of alternative forms of editing.

[redacted]

Figure 24 - *Heavenly Sword*

As opposed to the straightforwardly pragmatic use of split screen found in multiplayer games, these titles have adapted the use of the split-screen for expressive purposes.[809] In *Heavenly Sword* and *Heavy Rain*, the split screen is deployed to

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[809] Multiplayer split-screen is mostly functional as it allows multiple players to join the game while

increase the level of tension by portraying specific situations and events from different angles. Like in a comic book, multiple windows open on the same surface showing the environment or characters from multiple angles. While in comics, especially in Japanese *manga*, this technique is used in order to achieve a cinematographic effect, creating the illusion of movement, depth and overall to dramatize the environment through the combination of multiple static frames, in video games its use aims to primarily remediate cinema in a seamless way, limiting cut-scenes and maintaining the gameplay flow unaltered. In *Heavenly Sword*, the split screen creates multiple windows on the screen making it possible for the game to portray characters' close ups while not taking away the player's control over the player-character. In 'Chapter 2: Flying Fox', Noriko –the protagonist– fights against hordes of enemies inside an arena while Flying Fox comments on the inadequacy of his soldiers and on Noriko's unavoidable defeat. In order to maintain the immersion and the tension of the player during this section, the villain's mocking face is conveyed via split-screen, through a moving camera that portrays him in close-ups and medium shots, increasing the motivation of the player to fight.[810] In this game, editing is not only developed through a linear succession of shots, but also through their coexistence within the same screen space. Hence, editing in this title is not developed only horizontally, but also on a vertical level, within the same image. In his reflection on the changes generated by digital editing, Walter Murch describes 'vertical editing' as a new frontier in terms combining multiple shots without alteration, summarising the whole process of cinematic post-production (editing,

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sharing the same physical space. In spite of the increasing implementation of online multiplayer features, this practice is perceived to be still relevant for certain genres (namely platform games such as the *Lego* series) that appeal to a younger audience for which the physical communal experience is still considered a fundamental aspect of ludic activities.

[810] In *Heavenly Sword* the split-screen is especially is relevant also in order to underline the high level of graphic detail of the characters and the fluid quality of their animation achieved through motion-capture, delivering the strong interpretation of the actors with dramatic impact.

colour correction, special effects, CGI) within the idea of editing:

> Up until now, however, picture editors have thought almost exclusively in the horizontal direction: The question to be answered was simply, "What's next?" As you can tell from my math at the beginning, that's complicated enough-there are a tremendous number of options in the construction of a film. In the future, that number is going to become even more cosmic because film editors will have to start thinking vertically as well, which is to say: "What can I edit within the frame?"[811]

The split-screen is used in moments of high tension, in order to visually dramatize the scene without disrupting the gameplay. Similarly during the chapter 'Hassan's shop' in *Heavy Rain*, one of the protagonists –Scott Shelby– is accidentally trapped in a shop during a robbery. Here the player's actions determine potentially different developments of events and time is a key element in shaping the narrative progression. The split-screen is here diegetified through the use of two points of view that simulate those of a surveillance camera. The main central window –which portrays the player-character allowing him to interact– is in colour, while the smaller windows at the sides are in black and white, characterised by a grainy effect that resembles the image produced by low quality video cameras. While in *Heavenly Sword* the split-screen is used mostly as an aesthetic and narrative device, in *Heavy Rain* it strategically informs the player of the development of the situation, successfully integrating with the gameplay. In both examples, the split-screen bends diegetic time through the extradiegetic space, expressing the potential for connotation offered by 'spatial montage' as theorised by Lev Manovich in relation to

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[811] Walter Murch, op. cit., 2001, p. 130.

new media:

> Twentieth century film practice has elaborated complex techniques of montage between different images replacing each other in time; but the possibility of what can be called “spatial montage” between simultaneously coexisting images was not explored as systematically.[812]

Split-screen is a hybrid form of editing that offers multiple cuts without “cutting” or disrupting the viewpoint of the player-character, but still providing a dramatized and fragmented conception of space. While supporting the functional development of the gameplay, this technique allows video games’ audiovisual language to express and connote the image beyond its mere “function”.

Orpen’s invocation for an expressive understanding of editing should be applied not only to cinema but also to video games. The definition of editing in relation to this medium requires a nuanced discussion of its elements in order to embrace the wide variety of practices and models potentially relevant to it. If initially video game editing was understood as the practice of interrupting the game with pre-rendered narrative sequences, then in terms of pacing the game through alternating rhythms, tasks and visual rewards, editing has now become part of the gameplay, an integral feature of the cinematic interface that allows the player to control characters and to functionally spectate his/her own performance. It is then logical to expect editing to be capable of delivering this performance not only in a strictly functional fashion, but, also in terms of expressiveness and style. Games such as *Heavenly Sword*, *Naruto Shippuden Ultimate Ninja Storm*, *Dead Space 2* and *Grand Theft Auto V*,

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[812] Lev Manovich, op. cit, 2001.

deliver a representation that is not only functionally designed to facilitate gameplay, but also aims at expanding on thematic details and narrative tone while pleasing the gaze of the player that watches it and interacts with it. In this sense, as noted by Orpen, editing is expressive and exceeds the necessity to denote reality in order to connote it. This reality is not as fragmented as the one screened at the cinema. The main paradigm here is understandably the Bazinian long-take, through which the virtual experience potentially becomes an "infinite-take", a non-stop recording of the performance of the player testifying to the persistence of the game world and allowing him/her to become immersed in the virtual environment. Nevertheless, as shown by Nitsche, editing manifests itself in the video game in different forms providing functional continuity to the action in space. As noted by David Bordwell, classical film continuity developed into the more fragmented model of 'intensified continuity': 'Four strategies of camerawork and editing seem central to the new style: rapid editing, bipolar extremes of lens lengths, reliance on close shots, and wide-ranging camera movements'.[813] In digital media this tendency is reversed, with each shot potentially becoming endless:

> But in a larger, metaphorical sense, the rejection of traditional editing (cuts, shot/reverse-shots) offers a basic return to natural time, uncut except for the blink of your eyes and your sleep. There is no shot/reverse-shot in our everyday experience; we are creature of the long take, trapped in our own gaze. […] In movies, traditionally, such mobile long takes were considered, paradoxiacally, 'breaks' from realism, from the natural order of storytelling, even as they captured a certain reality in a very special

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[813] David Bordwell, *The Way Hollywood Tells it. Story and Style in Modern Movies*, Berkeley and Los Angeles: University of California Press, 2006, p. 121.

> way. They called attention to themselves.[814]

The narrative realism of the Hollywood model is abjured in favour of an experiential realism focused on the dramatic performance of the player and his/her character. Nevertheless, this flow is often expressively ruptured: spatially displaced on the screen, as in the use of split-screen; fragmented through the use of reverse-shots that enhance tension and spectacle, as in the bullet time deaths of *Max Payne* 3 or during the QTEs in *Tomb Raider* (the reboot), or again during the truck chase in *Uncharted 2*.[815] The continuous experiential flow of the player is then suddenly interrupted – often affecting also the controls– in an expressive way, to signal tension, to reward a masterful performance or to simply denote a character, an environment or an event in a visually meaningful way. For these reasons, editing in video games is not a process of functionally excluding irrelevant moments, but instead one of juxtaposing different viewpoints to intentionally break the flow of the experience. In cinematic games, this is achieved through means borrowed from film language that dramatically affect the form of montage that constantly connects the player with the virtual environment through the infinite-take, as well as functionally and expressively interrupting it with montage.

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[814] Nicholas Rombes, *Cinema in the Digital Age*, London: Wallflower, 2009, p. 70.

[815] The opening of ‘Chapter 5 – Urban Warfare’ in *Uncharted 2*, involves Drake being chased by an army truck across a small alley. In order to amplify the sense of claustrophobia and inescapability, the camera suddenly shifts to a reverse shot as the truck, in slow motion, breaks through a wall of debris. The camera frontally frames Drake in long-shot as he runs through the alley avoiding being run over by the truck advancing in the background. This editing choice is not the most convenient for the player, as it prevents him/her from seeing what awaits ahead, but it expressively connotes the situation by enhancing the feeling of danger and urgency.

Conclusion

Cinematic Games: Mise-en-jeu and Interactive Cinematography in *The Last of Us*

Sarah, a 12 year old girl, is asleep on the couch when her father, Joel, wakes her up coming back from home. The two are close and clearly share a strong bond that allows Joel to rely on Sarah's maturity in their daily life. After giving a birthday present to her father, Sarah falls asleep on the couch. Joel takes her to the bedroom, wishes her goodnight and turns the light off –fade to black. The phone rings and Sarah wakes up. The caller, her uncle Tommy –clearly stressed and in a rush– wants to talk to her father, but suddenly the line goes dead. The camera moves behind the girl, signalling a change in focalisation that requires the interaction of the player. As we move Sarah around in her room, she comments 'What was that all about?' and rubs her eyes still feeling sleepy. The house appears quiet as Sarah staggers through the corridors calling her father while going to his room. An intermittent light coming from a semi-closed door encourages the player to enter Joel's room. The television is on, illuminating the empty bed and highlighting the absence of Joel, who probably left in a rush leaving the bed undone and the TV on. On the TV, a reporter comments: 'It appears that what was initially reported as riots seem to be somehow connected to the nationwide pandemic. We received reports that the victims afflicted with the infection show signs of increased aggression'. Suddenly the local authorities interrupt the reporter asking everyone to leave the area. Sarah, probably disturbed by the news, notices that the site is not too far from her house and comments 'That's nearby'. The situation degenerates and the program is interrupted. A big explosion is visible from the window of the bedroom. The sirens of the police echo in the house and their red and blue lights pass through the windows, increasing the level of tension and suspicion as to what is happening outside. The posture of Sarah is now wary, showing her discomfort at not being able to find her father. A cell phone vibrates in the kitchen and its luminous display signals to the player its position within the environment, encouraging the girl to investigate. The phone shows eight missed calls and Sarah reads some texts sent by her uncle Tommy who says he is approaching their house. As Sarah walks by the French door, a barking dog outside suddenly goes silent. The girl braces herself, shivering at the sound of the whimpering animal. As she enters the living room Joel runs inside, checks on Sarah and frantically searches the drawers looking for a gun. Joel says that something is wrong with the Coopers –their neighbours– when a man covered in blood hits against the French door shattering the glass and landing inside the room. After warning him to stay away, Joel puts him down with the gun and explains to Sarah that they need to run away. The lights of a car illuminate the interior of the house. Joel takes Sarah and gets inside Tommy's car. The player is now in the rear with Sarah, listening to the two men talking about the outbreak. Through Sarah, we can look around the car, witnessing the chaos on the streets. After passing some crashed cars and a burning farm – Joel ignores a family on the roadside in need for help– we finally reach a huge queue of cars right at the entrance of the town. A man gets out of his car to complain about the traffic jam and suddenly he is attacked and killed by a stranger dressed in a hospital vest, who crushes the man on the ground right before going for Tommy and Joel's car. The situation escalates and, as the party looks for an alternative route across the town, they get trapped by a crowd of people running in the opposite direction. A vehicle careering out of an alley crushes against the car with

Tommy, Joel and Sarah inside. A brief cutscene shows Sarah waking up Joel inside the car, crushed upside down in the middle of the road. She is hurt and cannot move. The player now takes control of Joel, who runs through the streets carrying Sarah while Tommy keeps guard. Around the player-character, people run, chased and killed by the “infected”. A car crashes into a petrol station causing an explosion that forces the crowd down a side road. Tommy, Joel and Sarah find a small alley to escape the mayhem and hide inside a pub. Joel and Sarah escape while Tommy buys them some time fighting against the infected. The highway is visible and Joel cuts through a field. The lights behind them project on the humid mud the shadows of the infected chasing them. The shadows get closer, almost reaching Joel and his daughter, when finally a gunshot puts down the aggressors. A cut scene shows a soldier while Joel reassures Sarah that they are finally safe. The soldier orders them to stop. Joel confused explains that Sarah is hurt but none of them are infected. The soldier reports via radio to his superiors asking for orders: ‘Sir. There’s a little girl. But… Yes, sir’. The soldier points his gun at the two and opens fire. Joel is hit, letting Sarah fall on the ground. The soldier approaches Joel, ready to execute him when suddenly we hear another gunshot. Tommy kills the soldier and reaches the little girl –‘Oh. No…’–; Sarah, lying on the cold and muddy ground still in her pyjamas, cries in pain. Joel holds her in his arms –‘You’re gonna be ok, baby. Stay with me’. The camera frames Tommy looking at Joel, powerlessly witnessing the scene when suddenly the crying stops. Joel looks at Sarah and seeing her face –still and cold– starts crying. A melancholic musical theme plays in the background, impressing the sadness and the tragedy of this event upon the player so that he/she will remember Joel’s pain each time the theme plays.

The rhetorical juxtaposition between interactivity and narration is often used to deny the cinematic character of video games, leading commentators to identify an irresolvable incompatibility between film analytical tools and this newer medium. The underlying paradigm is often that of game simulation vs cinema reproduction, placing the two media at different extremes of the spectrum of representation. This thesis offers a more nuanced definition of these borders, showing their flexibility and negotiability depending on the function of each text. The opening episode of *The Last of Us* (described above) provides a particularly compelling example of the cinematic video game experience and demonstrates elements of of *mise-en-jeu* and *interactive cinematography* that together summarise some of the main features of cinematic games. The game deploys a rich profilmic setting and a strong filmic interface, providing a camera-mediated performance that immerses the player within the diegetic world and its characters. The player is neither Joel nor Ellie (the surrogate daughter that Joel has to escort during the rest of the game), but an immaterial instance made manifest through the camera, a fellow traveller and a witness to the characters' experiences. In *The Last of Us*, in fact, the player is in charge of choosing to traverse the environments or to explore them. They are inscribed with information about the game's world and its history. Some of them can be simply observed. The poster for a fictional film 'Dawn of the Wolf' which can be seen in Sarah's room, is later found again in the urban environments explored by Ellie, who does not understand the fascination with horror fiction, unable to grasp postmodern culture in a post-apocalyptic world. Those posters are reminders of the state of decadence in which the world has been frozen at the onset of the infection, but also of the way people have been deprived of time: no past nor future, only the survival of the present matters to the virtual characters in this title. Throughout the game, graffiti, banners and leaflets show the history of this world: the violence of a civil war; the rise of a totalitarian government; the struggle of the people starving in quarantine areas; the subversive fight of the Fireflies' resistance movement and their slogan of hope.

At the same time, the player is given the choice to engage more deeply with documents, letters, and diaries that tell the stories of particular individuals.[816] For example, in the first chapter, the player can decide to explore Sarah's room or to go right away for Joel. Investigating the space leads to a better understanding of the relationship between Joel and Sarah – the birthday card on the dresser and the note on the fridge give a glimpse of their complicated but happy life together[817]– but it also increases the suspense and the tension about what is about to happen –the phone line is down and a newspaper in the bathroom carries the headline 'Admittance spikes at the area hospitals' hinting at the upcoming drama. Whether the player stays in Joel's room or keeps exploring the house, the explosion in the town rumbles in the environment, unsettling Sarah and eliciting a concerned reaction. It is through the reactions of the characters to the world that *The Last of Us* establishes an emotional bond between the avatar and the player. Depending on each player-character –Sarah at first, then Joel and Ellie– the experience of the game changes and the player feels

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[816] Among others, the story of a survivor, Ish, is scattered across the pages of his diary, his notes and letters. Ish's story mirrors that of Joel and Ellie. The man decides to end his defensive isolation and reach for other people to start living again only to lose all of them in an accident, casting a shadow on the future of the main characters. At the same time, Ish's stories and annotations provide background and psychological depth to the infected in that area. The story of the community living in the sewers gives personality to the monsters, bringing them (back) to life, at least on an emotional level. For example, the player traverses a big area filled with female infected, later discovering that the room was a teaching space for children, in which the community of survivors hoped for a better future. As a consequence, collecting the information dispersed in the environment expands the narration of the game, amplifying its emotional impact. Cf. *The Last of Us*, 'Chapter 6: The Suburbs'.

[817] The content of the birthday card and the note on the fridge inform us about the difficulties of raising a child as a single parent, but provide also a clear sense of the solid bond between Joel and Sarah. Cf. *The Last of Us*, 'Chapter 1: Hometown'.

more or less exposed, tense, defensive or aggressive. The characters comment on the world around them, shout when scared, scream if angry, but they also describe life before the outbreak providing a sense of continuity between the prologue, which shows the fall of the world as we know it, and the rest of the game, in which Ellie explores with Joel its ruins.[818] The comments of the two characters also facilitate progression in the game balancing the difficulty and providing hints whenever the player is stalled, encouraging at times possible interactions between the two in order to solve a puzzle.[819] The animations of the characters convey their feelings and psychological state. Sarah looks sleepy and not fully awake as she walks around the her home, still unaware of what is about to happen. Her posture changes through the episode, as she starts to feel increasingly uncomfortable. Later in the game, during stealth sections, Joel carefully leans against the surfaces of the environment, displaying tension and attention, placing his arm around Ellie whenever the two take cover next to each other, showing his protective and paternal instinct towards her and reminding the player of his bond with Sarah. In *The Last of Us*, video game "hyper-presentness" is made part of the story because of its "end of the world" setting. Hyper-presentness is staged in the timeless environments. The passage of time is, in fact, tied to scripted events and their representation. Not only is the time of the day fixed for each level, but the macro-editing (structure) of the game is organised by season –Summer, Autumn, Winter and Spring– providing a strong sense of narrative

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[818] One of the most compelling moments is the short dialogue between Ellie and Joel in a music store: "[Ellie] Man. This is kinda sad. [Joel] What is? [Ellie] All this music that's just sitting here. No one's around to listen to it. I don't know. Doesn't seem right". The few lines infuse the characters with life and thoughts. By focusing on something mundane and completely unrelated to dramatic events narrated in the main story, the game expands the characters' personality beyond their functionality as empty vessels. Moreover, the occasional comments and banter between Joel and Ellie show their growing relationship, its shift from the diffident, reluctant pairing dictated by the circumstances, to the affection and deep interest in each other's lives. Cf. *The Last of Us*, 'Chapter 4: Bill's Town'.

[819] The game makes constant use of Joel and Ellies's vocal interaction to signal the possibility of reaching higher grounds or to manipulate objects such as waste containers, floating platforms or ladders.

progression over a longer temporal arc, allowing the development of the relationship between the two protagonists. In this sense, although the gameplay wraps the player in a suspended present, the overarching time structure conveys the increasingly desperate tone of the story, the tiredness of the characters as they struggle through each season, emotionally and physically changed.[820] Elements that are apparently decorative, such as lighting and colour, express the game's tone and atmosphere but also functionally inform its mechanics. Joel and Ellie are provided with a flashlight that allows the player to illuminate dark interiors. This adds a layer of psychological tension, stressing the relevance of noises and voices in the game as the player is prevented from relying solely on sight. The limited vision provided by the light encourages the use of Joel's ability to focus and listen in order to locate enemies. At the same time, lighting is used to create dramatic scenes and to highlight climactic moments, projecting hard shadows on the wall and isolating the enemies immersed in the dark.[821] Colours also reinforce the passage of time and inform the psychological state of the characters. The bright yellow sun of the summer is substituted by the red leaves of the autumn and, as the characters' relationship grows intimate, the two begin sharing memories of their past. Subsequently, due to the

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[820] The characters are dressed according to the seasons, showing attention to costumes and consistency between the environment, time and their past experience.

[821] In one of the most visually powerful scenes, right before the end of the game, Joel runs across the Firefly Lab to save Ellie, who is undergoing a lethal surgery procedure in order to extract modified genetic material from her cortex. Finally Joel reaches the top floor where Ellie is kept. A red door stands at the end of a long linear corridor and the perspective built through the corridor emphasises the door at the end of it, further highlighted by a bright yellow light filtering through a small rectangular glass panel. Also the yellow bands on the floor and on the walls direct the player toward the end of the corridor pointing at the door. Joel enters the surgery anteroom where the shadows of the surgeons projected on the curtains are visible through the glass, creating a strong dramatic scene that leaves Ellie's fate suspended. Once inside the operating room, the surgeons move around the table where Ellie lies unconscious, illuminated by a dense light that isolates her from the context, suggesting a portentous theatrical feel. Mirroring the prologue with Sarah, Joel carries Ellie across the hospital, while being chased by the Fireflies' soldiers. The presence of the soldiers slowly closing on Joel is suggested by the flashlights on their rifles that constantly follow the two fugitives. At the same time, the light coming from the open elevator at the end of the corridor indicates the way and gives hope to the player, while the melancholic musical theme of the game plays in the background to remind us of the opening when Joel lost Sarah at the hand of a soldier. Cf. *The Last of Us*, 'Chapter 11: The Firefly Lab'.

increasing stress dictated by the mission, their growing feeling of frustration is crystallised in the white and snowy scenery of winter, only to be finally replaced by the clarity of spring, when the destiny of Ellie is revealed together with the cynical master plan of the Fireflies. Colours are also part of the gameplay dynamics. Yellow is used in order to signal spots (edges, objects and platforms) that the player needs to reach in order to progress.[822] At the same time, yellow is also used to point at important landmarks within the levels (the Capital Building in Boston,[823] the Bridge in Pittsburgh[824]) providing the player with a sense of orientation and continuity between different areas and segments of the levels. The third-person camera frames the experience through a semi-subjective viewpoint that is automatically positioned behind the player-character, functionally merging the viewpoint of the character with that of the player. The alternation between medium long shots (during the exploration of the environments) and medium close-ups (whenever the player-character aims) accommodates the uninterrupted aesthetic of in-frame editing. Nevertheless, the game interrupts this flow during dramatic and tense situations, providing staged viewpoints that reflect the distress of the characters, forcing certain perspectives that are diegetically justified by the extreme circumstances.[825] Moreover, the empathic quality of the camera conveys the physical and psychological conditions of the

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[822] These signs often come in the form of tape used to seal dangerous areas and uneven grounds that can be used as passage to the next location. Other times, as in the climactic scene, yellow props and elements are used to show the path to follow, playing on the accumulation of associations between the colour and the possibility of progression in the game.

[823] *The Last of Us*, ‘Chapter 3: The Outskirts’.

[824] *The Last of Us*, ‘Chapter 5: Pittsburgh’.

[825] An extremely dramatic viewpoint is provided when Joel falls in one of the traps set by Bill against the infected. The character is lifted by the foot with a rope that leaves him mid-air and upside down in the middle of an open hangar, while the camera stays parallel to the ground inverting the position of the character within the frame composition. Here the control of the player is limited to the manipulation of the camera, used to follow Ellie as she tries to free Joel. Hence the constraint imposed on the controls mirror those experienced by Joel inside the diegesis. The arrival of the infected forces Joel to extract his gun in order to protect Ellie while she disables the trap. The camera gets closer to Joel as holds the gun and aims at the infected, facilitating the activity of the player while conveying the drama of the situation. Cf. *The Last of Us*, ‘Chapter 4: Bill’s Town’.

player-character: whenever Joel and Ellie get hurt colours fade to black and white,[826] emphasising the distress of the characters by adding a red aura that progressively stains the edges of the frame; also, in order to portray characters' focus the image turns black and white, reducing the depth of field while highlighting the silhouettes of enemies through walls and furniture, shifting sensorial attention from the visual to the audio level. The embodied character of the camera is foregrounded by its physical reactions: blood spills splatter on its lens; direct exposure to a strong light source generates lens flare; the emulation of imperfect photographic vision is highlighted by the blurry quality of particles of spores falling in front of it. Overall, the empathic and embodied functions merge as the camera shakes and trembles as a direct consequence of the sudden movements of the characters, when they hit or get hit during fights.

Hence *The Last of Us* proves the relevance of an awareness of cinematic audiovisual codes operating in video games. In spite of the different nature of these codes, their functions are adapted to the specificity of the medium. For this reason, analytical tools originally developed for cinema can provide a deep understanding not only of games' contents, narration, message and reception, but also of their mechanics. In this sense, we might understand video game *mise-en-jeu* as referring to the ensemble of features and techniques that structure the world of the game, infusing it with cinematic appeal. Events are dramatically organised through space allowing the player to interactively trigger and participate in the narrative development. Lighting

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[826] In one section of the game, Joel is badly wounded and unable to walk. Ellie has to carry him through the level, searching for the exit from a building assaulted by scavengers. Once again, the staged event limits the movement of the character while justifying these constraints on a diegetic level. Moreover, the rapid deterioration of Joel's health is here conveyed through the use of lens focus that becomes shallower as the character bleeds out, eventually resulting in the complete absence of depth of field and causing the image to blur until the character passes out. Cf. *The Last of Us* 'Chapter 8: The university'.

and colour are used to create meaningful associations between the activities in the game and its dramatic themes, charging elements with emotional and metaphorical values, often favouring connections to genres, and references to extra-textual elements and iconography. The performance of the player merges with that of the characters, establishing an emotional bond that exceeds the puppeteering of an empty vessel, making the player an observer and witness to the events that they live and their reactions. *Interactive cinematography* effectively describes the filmic interface that provides the player with a cinematic representation of the performance allowing him/her to interact with the world and direct the experience. The embodied and empathic camera mediates vicarious presence in the virtual environment conveying liveness through familiar means. The experience takes place in a hyper-present reality, dramatized through the use of interactive montage that provides it with both functional continuity and expressive fragmentation, eventually reconciling the need for interaction and spectatorship that underpins the emergence of cinematic games.

This thesis argues for the relevance of film theory and audiovisual textual analysis to the understanding of the video game medium. It has been a dominant argument in Game Studies to date that the interactive nature of the video game demands a medium-specific approach capable of giving account for the unprecedented character of the experience offered. Nevertheless, more than twenty years after its birth, this field is now ready to revaluate the contribution of other disciplines and approaches in order to provide a deeper and more articulated understanding of the medium, especially its audiovisual codes of representation. This research provides an overview of the many levels of analysis required for an adequate understanding of the *interactive moving image*, but certainly leaves many areas open for further investigation. Not only, for example, does it call for new research on sound and its use across different media, but it also asks –more broadly– for an organic analysis of the reciprocal processes of aesthetic influence between cinema and video games, that accounts for the full spectrum of remediation between these two media. Hence cinematic games should be seen as one of the symptoms of collision between these media and their industries, historically collocated at the intersection between the twentieth and twenty-first centuries, with a future that remains open to further negotiation between new expressive forms and devices.

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